MODERN MEDICINE

Safe, gradual, prolonged vasodilation

Isn't that what you want for your hypertensive patients?

Nitranitol provides it . . . permitting hypertensives to resume more normal lives.

And . . . therapeutic dosages of NITRANITOL can be maintained over long periods of time . . . *without* frequent checkups . . . *without* worry about possible toxic effects.

Nitranitol is the universally prescribed drug in the management of essential hypertension.

NITRANITOL®

(brand of mannitol hexanitrate)

FOR SAFE, GRADUAL, PROLONGED VASODILATION

1. **When vasodilation alone is indicated**—*NITRANITOL.*
2. **When sedation is desired**—*NITRANITOL with PHENOBARBITAL.*
3. **For extra protection against hazards of capillary fragility**—*NITRANITOL with PHENOBARBITAL and RUTIN.*
4. **When the threat of cardiac failure exists**—*NITRANITOL with PHENOBARBITAL and THEOPHYLLINE.*
5. **For refractory cases of hypertension**—*NITRANITOL P.V. (Nitranitol, Phenobarbital, Veratrum Alkaloids*)*

*alkavervir

Again and again, Cellothyl demonstrates its effectiveness in re-establishing proper bowel function. Hundreds of recorded clinical cases demonstrate Cellothyl's value as a constipation corrective. Note these important points:

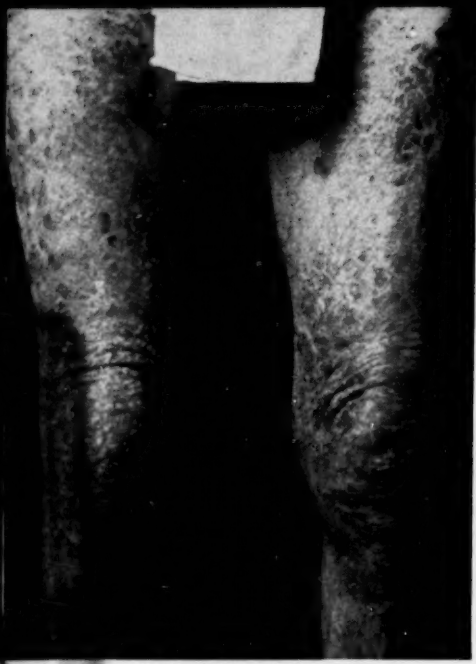
1. **Cellothyl provides bulk where needed.** Cellothyl provides proper bulk only in the colon, does not cause distention in the stomach.
2. **Cellothyl acts physiologically.** Like food, Cellothyl remains in liquid form throughout the digestive tract until it reaches the colon. Here, it gels into soft, moist bulk and induces normal peristalsis by gentle mechanical stimulation.
3. **Cellothyl's effect is prolonged.** Cellothyl corrects — not merely relieves — constipation. Usually, soft, formed stools appear within a few days, and a reduced dosage will maintain regularity.

Cellothyl®

the original methylcellulose "peristaltic"

CHILCOTT *Laboratories, Inc.*

MORRIS PLAINS, NEW JERSEY



Before Use of Riasol

After Use of Riasol

a personal experience

RIASOL for PSORIASIS

Here is the report of a physician wh used RIASOL on himself:

"I have had psoriasis myself since was 27 years old. I have been treate by doctors in Buffalo, New York Cit Chicago, Philadelphia and other place Some used X-ray which did away wi the rash for a short time, others use chrysarobin ointment which did me n good.

"Then in the winter I used to go the Caribbean, South America, Panam and other hot climates and lie in th sun. This caused the rash to disappea after I had a good tan. However, th rash came back after a time.

"Then I used Riasol and the ras has been gone for a long time with n return except for a small spot on m left elbow. This disappears after I ap ply Riasol a few times."

RIASOL contains 0.45% mercur chemically combined with soaps, 0.5% phenol and 0.75% cresol in a washabl non-staining, odorless vehicle.

Apply daily after a mild soap bat and thorough drying. A thin invisibl economical film suffices. No bandage required. After one week, adjust to pa tient's progress.

Ethically promoted **RIASOL** is sup plied in 4 and 8 fld. oz. bottles at pha macies or direct.

MAIL COUPON TODAY—TEST RIASOL YOURSELF

SHIELD LABORATORIES Dept. MM 12-5
12850 Mansfield Ave., Detroit 27, Mich.

Please send me professional literature and generous clinical package of RIASOL.

.....M.D.....Street

City..... Zone...State.....

Druggist.....Address.....

RIASOL FOR PSORIASIS

only

only *gentia-jel* offers gentian violet in this new plastic single-dose disposable applicator for the daintiest, easiest way to apply this specific in **pregnancy moniliasis.**

only *gentia-jel* offers gentian violet in a special wetting, acidifying, water-soluble base (polyethylene glycol) which permits intimate contact of this antimycotic with *Candida albicans* organisms... killing them quickly. Clinical record in pregnancy moniliasis: 93% combined cure and improvement, "noteworthy" relief from itch, burning, etc.[1] Safe to use until onset of labor.

only *gentia-jel* offers gentian violet therapy which can be used daily by the patient and doctor...without messiness and with minimal staining. Economical, too.

samples for office or patient use from...

Westwood Pharmaceuticals
division of Foster-Milburn Co., Dept. MM
468 Dewitt St., Buffalo 13, N. Y.

1. Waters, E. G., and Wager, H. P.: Amer. J. Obstet. & Gyn. 60:885, 1950.

MODERN MEDICINE

THE JOURNAL OF DIAGNOSIS AND TREATMENT

MODERN MEDICINE, The Journal of Medical Progress, of Minneapolis, Minn., is published twice monthly on the first and fifteenth of each month, at 55 East 10th Street, St. Paul 2, Minn. Subscription rate: $10.00 a year, 50c a copy.

ADDRESS ALL CORRESPONDENCE TO 84 SOUTH 10TH STREET, MINNEAPOLIS 3, MINN.

Acceptance under section 34.64, P. L. & R., authorized.

prolonged relief
from
nasal congestion
within
2 minutes with
just 2 drops of

Privine® hydrochloride **0.05 %**
(BRAND OF NAPHAZOLINE HYDROCHLORIDE)

potent, prompt-acting
Privine is a virtually
nonirritating
nasal vasoconstrictor
which can be administered
to children as well
as adults.

2/ 1855H

Ciba Summit, N.J.

MODERN MEDICINE

THE JOURNAL OF DIAGNOSIS AND TREATMENT

for the more common bacterial infectious diseases

Oral Penicillin t.i.d.

Pentids

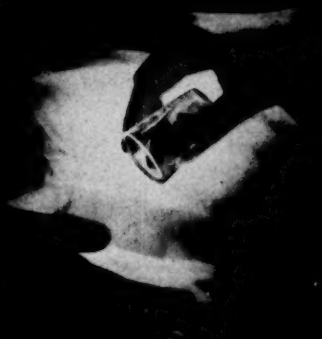
Squibb 200,000 Units Penicillin G Potassium Tablets

effective

convenient

fewer side effects

economical



SQUIBB

Fellows
COMPOUND
Syrup
W/
IRON
QUININE
STRYCHNINE

This is straight talk..

FELLOWS Syrup has yet to be equalled as a *stimulant* and *bitter tonic.*

FELLOWS Syrup is: Especially valuable for *Geriatric patients* and during convalescence.

FELLOWS Syrup *will*

- *STIMULATE APPETITE*
- *IMPROVE MUSCLE TONE*
- *PRODUCE EUPHORIA ALMOST INSTANTANEOUSLY*
- *ELEVATE THE MOOD WITHOUT AFTER DEPRESSION*

Economically priced...about 2c per dose to patient

Available: 7 and 14 oz. Bottles

Samples? Of course, on your request!

Fellows
MEDICAL MFG. CO., INC.
Pharmaceuticals

pharmaceuticals since 1906

2 Christopher Street
New York 14, N.Y.

TABLE OF CONTENTS

for

December 1

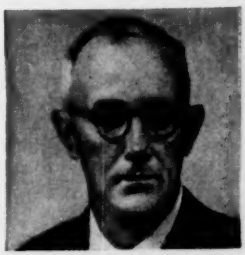
1952

Modern Medicine

Vol. 20, No. 23

●

THE MAN ON THE COVER is Dr. James D. Rives of New Orleans, Professor of Surgery at Louisiana State University, Senior Surgeon at Touro Infirmary, and Senior Visiting Surgeon at Charity Hospital. Diplomate of the American Board of Surgery and fellow of the American College of Surgeons, Dr. Rives is a member of the Southern Medical Association, American Surgical Association, Southern Surgical Association, and the International Society of Surgeons. The report on page 94, "Tumors of the Mediastinum," is based on an article by Dr. Rives which was published originally in the *New Orleans Medical and Surgical Journal*.



Contents for December 1 1952

CONTINUED

Contents for December 1 1952

CONTINUED

announcing DRILOZETS*

antibiotic-anesthetic LOZENGES for SORE THROAT

associated with coughs or colds and for other minor infections of the throat and mouth

S.K.F. now presents 'Drilozets', a new, pleasant-tasting preparation to combat infection and relieve irritation in the throat and mouth.

'Drilozets' work in two ways:

1. **Double antibiotic action:** 'Drilozets' contain anti-gram-positive gramicidin and anti-gram-negative polymyxin to prevent or attack bacterial infections.

2. **Soothing anesthetic action:** 'Drilozets' contain the remarkable new topical anesthetic Quotane†, to soothe inflamed mucosa.

With 'Drilozets', you minimize the danger of sensitizing the patient to penicillin or the "mycins", which are so frequently used systemically in serious infections.

Smith, Kline & French Laboratories, Philadelphia

★Trademark †T.M. Reg. U.S. Pat. Off. for dimethisoquin hydrochloride, S.K.F.

An Unusually Unresponsive Arthritis—Severely Painful, Recurrent . . . . .

Consider gouty diathesis as the cause. "Chronic gouty arthritis may be confused with osteoarthritis, post-gonorrheal rheumatoid arthritis and adult rheumatoid arthritis."[1]

Fortunately, there is a sure diagnostic test for gouty arthritis—gout should be suspected if "symptoms are *relieved* within 24 to 72 hours by adequate doses of *colchicine*."[2]

Specifically designed to meet the demands of gouty arthritis therapy—

CINBISAL 'McNeil'

TRADE MARK

—provides colchicine (0.25 mg.) for its specific effect; sodium salicylate (0.3 Gm.) to combat pain in hyperuricemia; ascorbic acid (15 mg.) to replace vitamin C lost during salicylate therapy.

IN ACUTE CASES—medical management includes two tablets Cinbisal (equivalent to colchicine 0.5 mg. and sodium salicylate 0.6 Gm.) every hour until pain is relieved, unless gastrointestinal symptoms appear. (Eight to ten doses are usually sufficient.)

TO PREVENT RECURRING ATTACKS—one or two tablets every four hours.

CINBISAL *is supplied in bottles of 100 and 1000 tablets. (Engestic® coated green.) Samples on request.*

McNEIL LABORATORIES, INC. Philadelphia 32, Pa.

1. Comroe, B. I.: Arthritis and Allied Conditions, Philadelphia, Lea & Febiger, 1949, p. 734.
2. Ibid, p. 735.

Correspondence

Communications from the readers of MODERN MEDICINE *are always welcome. Address communications to The Editors of* MODERN MEDICINE, *84 South 10th St., Minneapolis 3, Minn.*

Trauma Symposium Excellent

TO THE EDITORS: I am a regular and interested reader of your journal and find it most valuable in my practice. The September 1, 1952 issue with the Trauma Symposium is excellent.

M. NOBE, M.D.

Chicago

► TO THE EDITORS: It is requested that 10 copies of the September 1, 1952 edition of *Modern Medicine* be forwarded to this command as soon as practicable. It is the intent of this command to have each medical officer have a copy of your Symposium on Trauma available in his office.

H. H. CARROLL, CAPT., M.C., U.S.N.

San Francisco

► TO THE EDITORS: I hope you have some extra copies of your excellent Symposium on Trauma. I would like one for my permanent file.

PHYLLIS O. HELCHER, M.D.

Abilene, Tex.

¶The demand for the issue containing the Symposium on Trauma has exhausted our supply. The Symposium will be included in the 1953 *Modern Medicine Annual* which is now being offered at a prepublication price of $6 per volume to readers of *Modern Medicine* who reserve their copies now. Present plans call for publication in March 1953.—Ed.

Parallel Process

TO THE EDITORS: A question pertaining to joint swelling (*Modern Medicine*, June 15, 1952, p. 38) following the ingestion of B_{12} has prompted me to write. I have read of gout being precipitated by an injection of liver extract, and it occurred to me that the same process may be involved in the case described.

ALLAN V. MORGAN, M.D.

Pittsburgh

Forum Addendum

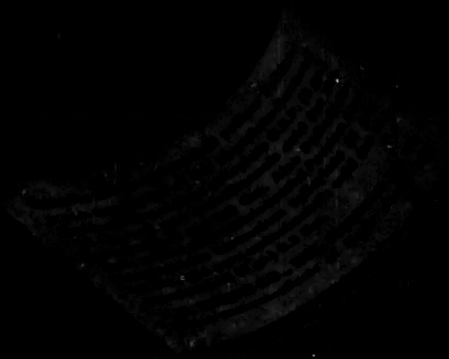
TO THE EDITORS: The forum discussion of surgery in inguinal hernia (*Modern Medicine*, Sept. 15, 1952, p. 164) omitted the name of one physician among the commentators who could furnish you valuable information on the use of Cooper's ligament in the repair of inguinal hernias. Col. William L. Keller, M.C., U.S.A. (Ret.) of Washington, D. C., is the patron saint of many of us who performed surgery in the regular Army over the years and taught us his method of inguinal repair which included:

1] High ligation of the sac at the prevesical fat junction

2] Figure-of-eight light sutures uniting the conjoined tendon to Cooper's ligament, and remembering

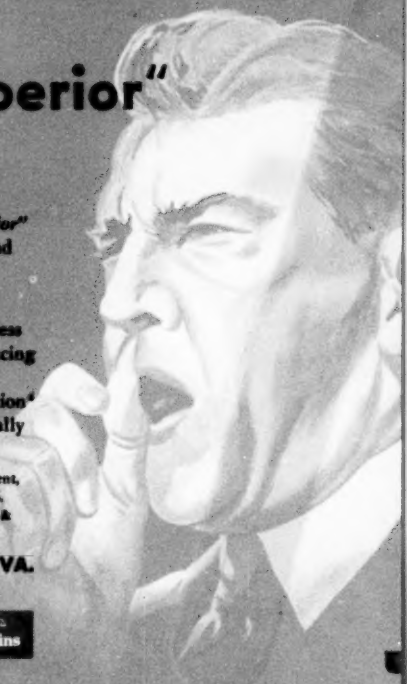
(Continued on page 24)

Pabalate



A cough medication—

"significantly superior"



Carefully controlled tests on 52 institutionalized patients have led to the conclusion[1] that "in all important categories, the glycerol guaiacolate preparation (Robitussin) was *significantly superior*" to the recognized remedies ammonium chloride and terpin hydrate.

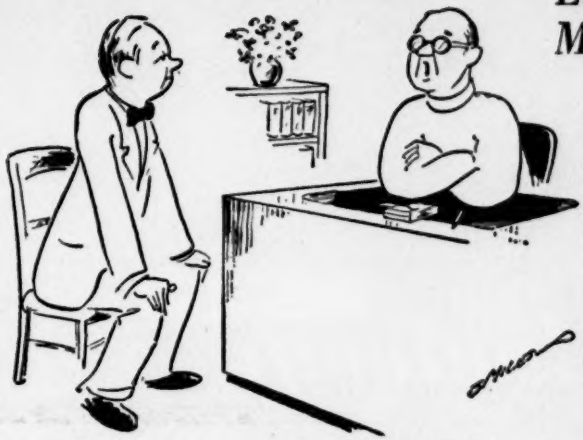
Robitussin 'Robins' employs not only glyceryl guaiacolate—shown to have maximum effectiveness for increasing respiratory tract secretions[2] and reducing coughing spells[3]—but also desoxyephedrine hydrochloride, for relieving bronchiolar constriction[4] and improving the patient's mood.[5] An exceptionally palatable syrup, for both adults and children.

REFERENCES: 1. American Practitioner and Digest of Treatment, 2:844, 1951. 2. J. Pharmacol. & Exper. Therapy, 87:24, 1946. 3. Ibid, 73:63, 1941. 4. J. Pharmacol. 77:324, 1943. 5. J. Lab. & Clin. Med., 28:603, 1943.

A. H. ROBINS CO., INC. • RICHMOND 20, VA.

Robitussin® Robins

Life's Weary Moments

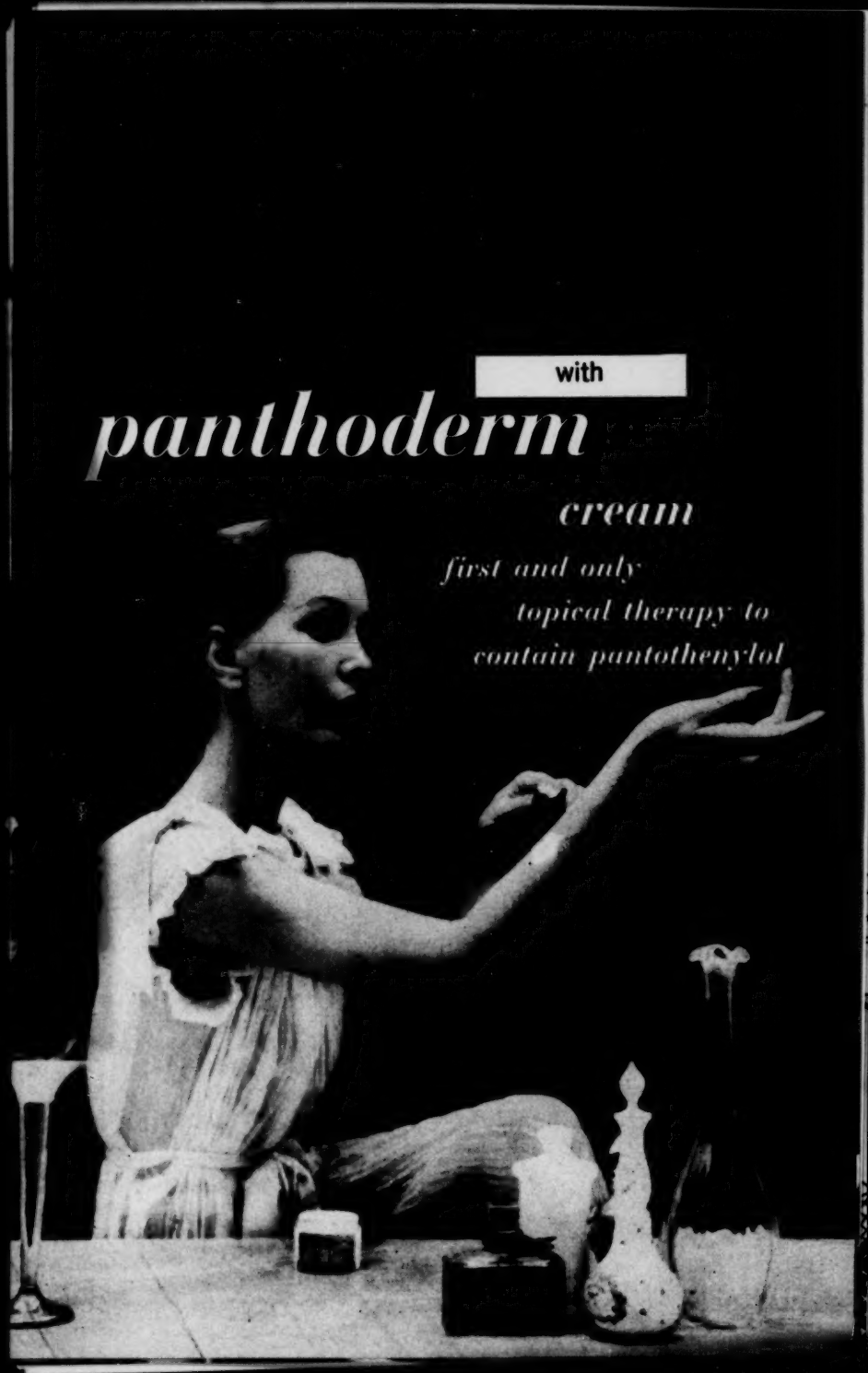


"Of course you can keep your Cadillacs. It's your cataracts that we're going to remove."

Think of a gag that fits the illustration. For every issue a new gag is published and the author sent $5. The Dec. 1 winner is

D. A. Donio, M.D.
Allentown, Pa.

Mail your caption to The Cartoon Editor Caption Contest No. 1 MODERN MEDICINE 84 South 10th St. Minneapolis 3, Minn.


with
panthoderm
cream
first and only
topical therapy to
contain pantothenylol

itching, pain, irritation

eczema resistant dermatoses

• pruritus • external ulcers • diaper rash • burns • ivy dermatitis • and other dermatological disorders

free from sensitization

local irritation; patch tests are negative.

U S V

U. S. VITAMIN CORPORATION
Casimir Funk Laboratories, Inc. (affiliate)
250 E. 43rd St., New York 17, N. Y.

"down *to* but not *thru* the periosteum."

I performed his operation on a fair number of cases over the years 1919-45 and had 1 recurrence. We always used double strands of chromic. In the service, we had an excellent chance to check our results over the years.

COL. A. W. GREENWELL, U.S.A. (RET.)
Passaic, N. J.

Night-Shift Physicians

TO THE EDITORS: Before I studied medicine, an older brother and an uncle advised me that I would have some very irregular sleep. I am sure that 100% of my readers will agree to their truthfulness.

I believe our city cousins may get regular sleep by adopting the following plan: Let about 10% of their number, or even more if necessary, go on the night shift. Their offices would be open all night and their telephones operating all night. Then when daytime came they would disconnect their phones and close their offices and anticipate a day's rest. The daytime physicians would anticipate a night of complete rest.

Large "Do Not Disturb" signs should be on the door in the daytime for the night physicians and at night for the day physicians.

A close cooperation would, of course, have to exist between the

(Continued on page 30)

Simplicity Itself

TO KEEP CARDIACS EDEMA-FREE

Effective and well tolerated, Tablets MERCUHYDRIN with Ascorbic Acid bring a new simplicity to the management of cardiac patients.

Just one or two tablets daily—plus an occasional injection—keep the average cardiac patient at basal weight. Some patients—freed of accumulated fluid with parenteral MERCUHYDRIN—may be maintained edema-free on tablets alone.

TABLETS

MERCUHYDRIN®

with ASCORBIC ACID

the simplest method of outpatient maintenance

To secure the greatest efficacy and all the advantages of Tablets MERCUHYDRIN with Ascorbic Acid, a three-week initial supply should be prescribed . . . 25 to 50 tablets.

Dosage: One or two tablets daily—morning or evening—preferably after meals.

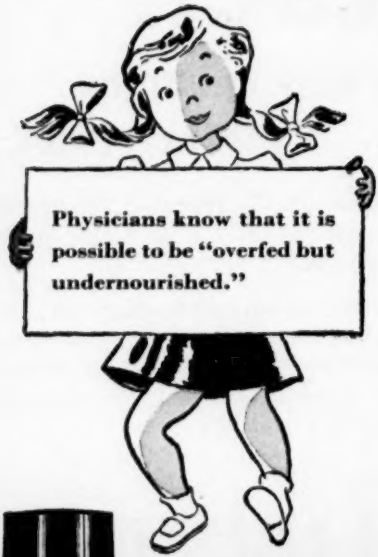
Available: Bottles of 100 tablets. Each tablet contains meralluride 60 mg. and ascorbic acid 100 mg.

M-23

Leadership in diuretic research

Lakeside LABORATORIES, INC., MILWAUKEE 1, WISCONSIN

Every Child Can Be a



Physicians know that it is possible to be "overfed but undernourished."

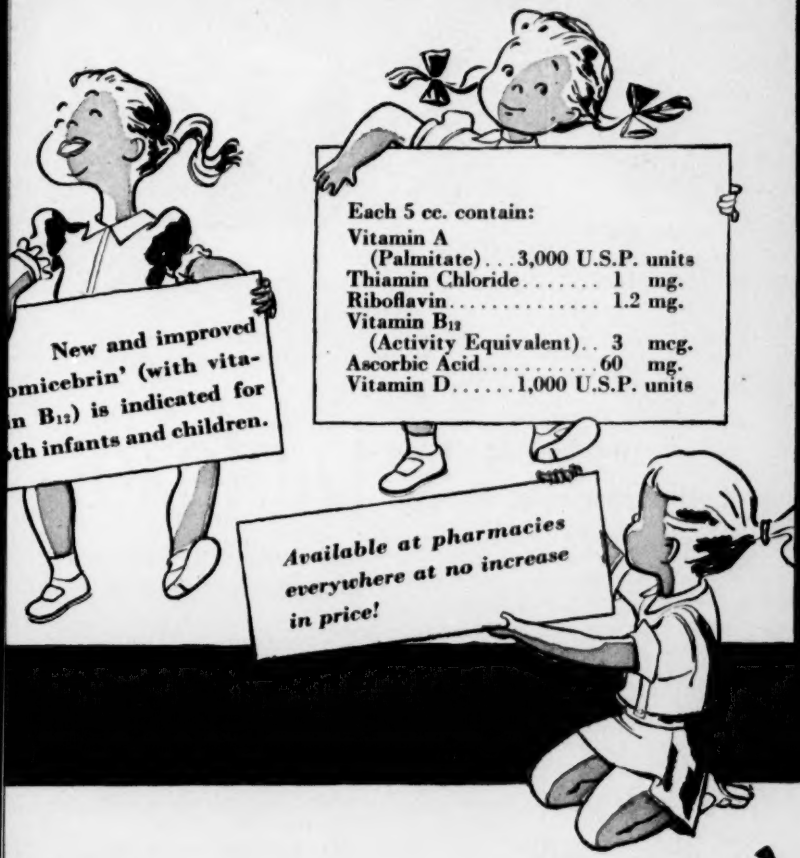
Back of every healthy child is a nutritional history rich in essential nutrients.

Lilly

Available in 60-cc., 120-cc., and 1-pint (economy) sizes

Eli Lilly and Company, Indianapolis 6, Indiana, U.

Nutritional Prodigy



Homicebrin

(HOMOGENIZED MULTIPLE VITAMINS, LILLY)

Doctor to Doctor

Think of a gag that fits the illustration. For every issue a new gag is published and the author is sent $5. The Dec. 1 winner is

D. V. Jordan, M.D.
Minneapolis

Mail your caption to
The Cartoon Editor
Caption Contest
No. 2
MODERN MEDICINE
84 South 10th St.
Minneapolis 3, Minn.

"You'll find the source of infection on page 1183 of the city directory: 'Salmon, Ella.'"

Koagamin Controls Post-Tonsillectomy Bleeding

Spontaneous or postoperative bleeding may be controlled with KOAGAMIN easily and quickly. It has been found especially effective in post-tonsillectomy bleeding for its double action—decreasing coagulation time and increasing clot resistance—even in hemophiliacs.

KOAGAMIN'S direct action on the blood and tissue fluids renders it more useful than vitamin K, effective only when blood prothrombin is low. In such cases KOAGAMIN is recommended for injection with slower-acting vitamin K to effect faster control.

KOAGAMIN

THERAPEUTICALLY

PREOPERATIVELY

POSTOPERATIVELY

Chatham

CHATHAM PHARMACEUTICALS, INC. NEWARK 3, NEW JERSEY, U.S.A.

two shifts. For instance, if Mrs. X, due to the time of day, couldn't get her regular physician, she could get another until her own came on duty. This would occasionally call for two trips, whereas now only one would do, but I believe such an occurrence would be very rare. In a city large enough, the specialties could have their shifts, too, but generally it would probably apply only to the men in general practice.

A. B. GRUBB, M.D.

Cripple Creek, Va.

Modest Exception

TO THE EDITORS: In the September 1, 1952, number of *Modern Medicine* (p. 222) a case of pulmonary adenomatosis was discussed in Diagnostix Case MM-222. In Part IV, the Visiting M.D. concludes: "Roentgen diagnosis is difficult if not impossible to make . . . No treatment is known."

The undersigned wish to take modest exception to these statements. A review of the literature shows that there are two characteristic radiographic lesions in this condition—a multiple nodular form and a diffuse pneumonic type. The diagnosis certainly should be suspected or thought of after viewing the roentgenogram.

This is particularly important in those instances first seen when the process is confined to one lobe, since lobectomy will either prolong or save life. The reports of Osser-

effective in 6 out of 7 cases of functional vomiting[1] . . . reduces gastrointestinal smooth muscle contractions physiologically . . . contains no antihistaminics, barbiturates, or other drugs . . . also useful in nausea of pregnancy, and for drug- or anesthetic-induced vomiting

1. Bradley, J. E., et al.: J. Pediat. 38:41, 1951; idem: Amer. Acad. Pediat., meeting Oct. 16, 1951.

IMPORTANT: **EMETROL** is stabilized at an optimal physiologic pH level. Dilution would upset this careful balance. For this reason, **EMETROL** is always taken straight, and no fluids of any kind are allowed for at least 15 minutes after administration.

Supplied:
In bottles of 3 fl.oz. and 16 fl. oz., at pharmacies everywhere

Kinney

write for complete literature

KINNEY & COMPANY ◆ COLUMBUS ◆ INDIANA

57AS3

man and Neuhof, Geever et al., Delarue and Graham, Woods and Pierson, and our personal experience all substantiate the above.

JASON E. FARBER, M.D.
JOSEPH ROSS, M.D.
Oakland, Calif.

Equal to Five-Year Stay

TO THE EDITORS: During the two-year period of my stay in the United States serving an internship and residency in different hospitals I always considered reading *Modern Medicine* as a part of my educational and practical training. I enjoyed its usefulness and was exceedingly glad to always find it in all the hospitals in which I served and had the opportunity to train.

I have the feeling that the information I acquired from your publication is equal to five years' stay in this country. The time of departure for my home country is fast approaching and I hate to miss your valuable journal, so I would like to have your 1953 *Modern Medicine Annual* and a year's subscription to *Modern Medicine* mailed to my home in Manila. In so doing, I and my brother-doctor shall have the opportunity to keep abreast with modern American medicine. Then and only then shall I consider my training in American hospitals a complete success.

DOMINADOR L. BASCARA, M.D.
Manila, P. I.

✻ REFRACTORY CASES OF THAT MORE COMPLETE

Complete anemia therapy "... should include in adequate amounts all essential nutritive elements...."[1] When the therapy is inadequate, the anemia is erroneously classified as "refractory." Investigation has revealed that so-called "refractory anemias" usually respond when all the necessary hemopoietic and nutritional factors are supplied.

HEPTUNA PLUS contains Vitamin B_{12}, Ferrous Sulfate, Folic Acid, and Ascorbic Acid . . . for maximal hemoglobin synthesis and more effective hemopoiesis . . . PLUS other essential Vitamins, Minerals, and Trace Elements necessary for blood regeneration and for the maintenance of an optimal nutritive state.

1. McLester, J. S.: Nutrition and Diet in Health and Disease. Ed. 5 (Philadelphia: W. B. Saunders and Co.) 1949, p. 636.

The most COMPLETE hematinic available today — ALL IN ONE CAPSULE • •

J. B. ROERIG AND COMPANY,

ANEMIA ARE A WARNING THERAPY IS NEEDED

FERROUS SULFATE U. S. P.	4.5 gr.
VITAMIN B12	5.0 mcg.
FOLIC ACID	0.33 mg.
ASCORBIC ACID	50.0 mg.
COBALT	0.1 mg.
COPPER	1 mg.
MOLYBDENUM	0.2 mg.
CALCIUM	37.4 mg.
IODINE	0.05 mg.
MANGANESE	0.033 mg.
MAGNESIUM	2 mg.
PHOSPHORUS	29.0 mg.
POTASSIUM	1.7 mg.
ZINC	0.4 mg.
VITAMIN A	5,000 U. S. P. UNITS
VITAMIN D	500 U. S. P. UNITS
THIAMINE HYDROCHLORIDE	2 mg.
RIBOFLAVIN	2 mg.
PYRIDOXINE HYDROCHLORIDE	0.1 mg.
NIACINAMIDE	10 mg.
CALCIUM PANTOTHENATE	0.33 mg.

With other B-Complex Factors from Liver

. . . Heptuna plus

536 LAKE SHORE DRIVE, CHICAGO 11, ILLINOIS

Forensic Medicine

ARTHUR L. H. STREET, LL.B.

Prepared especially for Modern Medicine

PROBLEM: An otologist was sued for failing to remove a bean from a child's ear. There was evidence that the doctor had said he saw the bean in the ear canal, despite the fact that his excuse for not removing the bean was that he could not find it. Could a jury find, without aid of expert testimony, that the doctor had failed to exercise the care and skill required of him as a specialist?

COURT'S ANSWER: Yes.

So decided the Massachusetts Supreme Judicial Court, but the decision rested upon a theory of negligence because there was no evidence that the physician had agreed to remove the bean and therefore he was not liable as for breach of contract to do so (193 N. E. 551).

PROBLEM: A woman requested a doctor to perform an abortion. Was he guilty as an accomplice if he merely gave the woman a name and an address, if the abortion was committed or attempted by the person named?

COURT'S ANSWER: Yes.

In this case, in which conviction of a doctor under such circumstances was upheld by the New Jersey Supreme Court, it appeared that, on refusing to operate himself, the doctor gave the woman a slip of paper on which was written the name of the person who operated and the latter's telephone number. The woman was told to call that number and say that she was calling from a certain address, that of the doctor. The court observed that this evinced a prearranged code which would identify the doctor to the principal offender as the "forwarding agent" (89 Atl. 2d 685).

PROBLEM: Dr. G, a surgeon, was called in to assist Dr. F perform an operation. Dr. F was the patient's family physician. If it was understood between Dr. F and the patient that Dr. F would pay Dr. G's bill, the latter did not know it. Did the patient have a right to rely upon such an understanding as a defense to suit by Dr. G to collect for services?

COURT'S ANSWER: No.

The Wisconsin Supreme Court decided that the evidence clearly showed that Dr. G had no reason to suppose that he was being employed by Dr. F, and that the patient was under implied obligation to pay the reasonable value for services rendered, despite his belief that Dr. F would pay the bill (30 N. W. 787).

Note: Of course, if there is an actual agreement between a family physician and a patient that the doctor will take care of the fee of one called into consultation, the patient is entitled to redress against his doctor for breach of that agreement.—A.L.H.S.

Antibacterial therapy for children—

Gantrisin®'Roche' —
a more soluble, single
sulfonamide with a wider
antibacterial spectrum —
is now available as a
raspberry-flavored
pediatric suspension.

From the literature —

"...with infants and children where the difficulty of fluid administration is sometimes great ...Gantrisin offers the advantage of an effective sulfonamide of high solubility with little danger of renal complications."

Texas Rep. Biol. & Med., 9:764, 1951

PROBLEM: In a trial for abortion, the court suppressed the accused's office records as evidence for the prosecution because they were seized without a proper search warrant. But the accused, in testifying, refreshed his memory by referring to copies of some of the suppressed records. Did he thereby lose the benefit of the suppressing order?

COURT'S ANSWER: Yes.

So declared the U. S. District Court, District of Columbia (105 Fed. Supp. 775).

PROBLEM: In a personal injury case, 2 physicians testified that plaintiff was suffering from traumatic neurosis resulting from the accident involved. Dr. X testified that plaintiff was a malingerer; a jury, evidently believing the doctor, awarded plaintiff only $50. On cross-examination, it appeared that for many years Doctor X had testified on behalf of the defendant corporation and other defendants in personal injury cases. He admitted receiving $50 for a pre-trial examination of plaintiff, but the trial judge ruled out a question as to what he expected to get "for testifying here today." Did the judge err in requiring a new trial?

COURT'S ANSWER: Yes.

The Superior Court of Pennsylvania referred to a previous decision of the supreme court of the state, to the effect that, to test the credibility of expert testimony, it was proper to inquire on cross-examination as to "what arrangements the doctors had made or were contemplating making for compensation."

The superior court observed that a physician with many years experience as a witness is able to "sell" his services "in a seller's market" and that it would accord with the practice of other professional witnesses if he "fixed his fees unilaterally" (90 Atl. 2d 371).

PROBLEM: A very prosperous Pennsylvanian, assenting to bowel surgery upon his wife, said that he had been about to ask what the charges would be, but would not "bother" about that because he was able to pay. The surgeon replied that he customarily fixed a fee satisfactory to the patient, the family doctor, and himself. Triple surgery requiring rare skill was performed, including the removal of a cancer and bowel obstruction. The patient was restored to good health, but the husband angrily refused to pay a $3,000 fee, declaring that it ought to be only $300 but that he would pay $500. The fee had been fixed at $3,000 after consultation with the family physician and surgeons, who measured the value of the services at from $2,000 to $5,000. This was in the late 20's before the dollar was depreciated. The surgeon in a letter to the patient said that the fee was large and more than he would have asked on his own initiative, but that it was fixed on excellent advice and knowing that the patient's husband did not "hesitate over such a sum when it concerns anything that pleases him." Was the surgeon entitled to judgment for $3,000, plus interest?

COURT'S ANSWER: Yes.

The Pennsylvania Supreme Court decided: [1] What was said before the operation did not permit the husband to fix the fee, but merely called for a determination of the reasonable value of the services. [2] The letter to the wife did not admit that the charge was excessive.

In upholding the judgment, the Supreme Court said: "Physicians

should not have their services valued, as you would commodities in trade, by a fixed standard; what would be a proper charge for the same service to a man fully able to pay would be excessive to a man of limited means, and what would be willingly done for the indigent, without thought of financial reward, should be compensated for by one who can afford to pay on the scale which doctors of repute measure as a proper one. Only on such a basis can those who devote their lives to ministering to human suffering in some degree be fairly paid" (145 Atl. 284).

The court approved a declaration by the Louisiana Supreme Court that it is a matter of common information that doctors do not regulate their charges according to any fixed standard of pecuniary value but, to a certain extent, upon ability to pay, and on that basis "more frequently than otherwise, perhaps, are poorly compensated" (79 So. 829).

PROBLEM: As affecting an employee's right to workman's compensation award for total disability resulting from an accident which caused epigastric hernia, was he bound to submit to a second operation after an unsuccessful one?

COURT'S ANSWER: No.

So declared the U.S. District Court, Eastern District of Louisiana (105 Fed. Supp. 105).

Fellows Chloral Hydrate

CAPSULES

NON-BARBITURATE
NON-CUMULATIVE
TASTELESS
ODORLESS

3¾ gr.
Daytime sedation—
without hangover

7½ gr.
Restful sleep—*without hangover*

℞ specify *Fellows* for the *original*, stable, hermetically sealed soft gelatin capsules Chloral Hydrate.

Available — ¾ gr. (0.25 Gm.) bottles of 24's and 100's
7½ gr. (0.5 Gm.) bottles of 50's

Samples and literature on request

pharmaceuticals since 1866

28 Christopher Street
New York 14, N. Y.

Fellows
MEDICAL MFG. CO., INC.
Pharmaceuticals

PROBLEM: When municipal hospital authorities had not adopted rules governing the qualifications of physicians to perform surgery, could a licensed doctor who had been a member of the courtesy staff for several years be denied the privilege of performing such surgery, particularly when he was afforded no opportunity for hearing on his application for such permission?

COURT'S ANSWER: No.

The New Jersey Superior Court, Chancery Division, decided: In such a case, a court cannot determine a surgeon's qualifications when he holds an unsuspended and unrevoked state license. But the license does not authorize him to practice in a municipal hospital.

Rejection of the doctor's application by the hospital medical staff without a hearing, which was required by established rules governing the staff, vitiated their action.

Numerous appellate court decisions were cited as showing that the courts generally recognize that a municipal hospital may reasonably regulate the admission of physicians. But there must be standard regulations, clearly worded, that leave no opening for an arbitrary or unjustly discriminatory enforcement of the same.

It would be reasonable to require, as a prerequisite to doing major surgery, that the physician be a diplomate in surgery or a fellow of the American College of Surgeons or that he serve a probationary period (90 Atl. 2d 151).

An Outstanding Achievement in Glandular Product Control

Thyrar, prepared by the new "isothermic process" (positive temperature control at every step) is derived only from bovine sources. "Isothermic processing" is the key to uniformity in this entirely new thyroid preparation. Thyrar represents all of the known hormones of the whole thyroid gland, biologically tested and chemically assayed for uniformity of response. By the exclusive use of beef thyroid glands, "quick frozen" at the animal and "isothermic processing", higher purity and greater uniformity are assured.

advantages of thyrar

- Complete efficacy of the whole gland
- Greater uniformity of finished product
- Elimination of unwanted organic matter
- Double standardization—chemically assayed and biologically tested
- Conforms with Thyroid U.S.P.—may be prescribed in the same dose
- Tasteless
- New, small-sized whole thyroid tablet offers greater patient convenience

A

world-wide dependability

PROBLEM: A statute required that a sworn application for registration as a physician, on blanks to be furnished by the registration board, should give satisfactory proof of good moral character and so on. An applicant misrepresented that he had not been convicted for violating any law or ordinance. Was he subject to prosecution for perjury?

COURT'S ANSWER: Yes.

The Massachusetts Supreme Judicial Court said that convictions of certain offenses would not necessarily show a lack of moral character or unfitness to practice, but that the board had a right to be informed so that appropriate investigation might be made. In this case, accused falsely concealed a conviction of having illegally transported liquor, and the application bore the statement immediately above the signature line: "A true statement made under the penalties of perjury" (65 N. E. 2d 318).

PROBLEM: Under Pennsylvania law, an $82.95 hospital bill and a surgeon's claim for $750 had priority over ordinary debts of an insolvent estate left by a decedent. But was the United States entitled to full payment of income taxes owing by decedent before any assets could be applied to payment of the hospital and doctor's bills?

COURT'S ANSWER: Yes.

The Orphans' Court (probate court) in Philadelphia so decided (79 Pa. Dist. & Co. Rep. 351). The court referred to a previous decision to the effect that claims of the federal government were preferred against all unsecured claims against decedents' estates excepting administration expense, widow's exemption, and funeral expenses.

Questions & Answers

All questions received will be answered by letter directed to the petitioner; questions chosen for publication will appear with the physician's name deleted. Address all inquiries to the Editorial Department, MODERN MEDICINE, *84 South Tenth Street, Minneapolis 3, Minnesota.*

QUESTION: After a woman had been receiving large doses of progesterone for menstrual difficulties, an acute psychotic condition developed for which she was removed to a state hospital. Could progesterone have been responsible?

M.D., Pennsylvania

ANSWER: *By Consultant in Gynecology.* I know of no toxic effect from progesterone that would produce an acute psychotic condition. Sex steroids have been used quite extensively in the treatment of some involutional melancholias. I believe that whatever progesterone treatment this patient received was not related to her mental condition.

QUESTION: Some time ago I read in *Modern Medicine* of a method of estimating metabolic rate from the pulse rate. I have misplaced the copy and ask you to repeat the information.

M. D., Michigan

ANSWER: *By Consultant in Internal Medicine.* The method reported (*Modern Medicine*, Oct. 15, 1949, p. 30) was that of Dr. Eugene Bene of Prague. In an article appearing in *Lancet*, Dr. Bene wrote:

"The method (Bene) gives the basal metabolic rate as an index—e.g., normal pulse-rate (72) x normal respiration-rate (18) equals 1296. The normal range is 1100-1500; below 1100 the index indicates decreased, above 1500 increased basal metabolic rate."

The chief advantage of the RP index is the simplicity and reasonable degree of correspondence to the Krogh method.

Dr. Bene investigated 100 patients by the Krogh method and simultaneously obtained the pulse and respiration rates required to apply his RP-index formula, with the following results:

Correspondence with Krogh (%)

Krogh	*Patients*	*RP index*
Above +15%	43	67
Between +15% and −10%	48	70
Below −10%	9	70

QUESTION: Are large doses of vitamin B_{12} recommended for severe neuralgia after herpes zoster? If so, what is the value, especially in relation to the length of illness?

M. D., Texas

ANSWER: *By Consultant in Neurology.* Large doses of vitamin B_{12}, approximately 1,000 μg. intramuscularly, have been strongly recommended for treatment of neuralgia after herpes zoster. This treatment is too new for evaluation. Apparently, the drug is most applicable in the more acute cases.

new,
improved

ARLCAPS

for faster, greater,
more sustained relief

in the **COMMON COLD**
and **ASTHMA**

- reduces edema and congestion in the bronchi and upper respiratory mucosa – relaxes spastic bronchial musculature.
- alleviates malaise and fever – allays tension and apprehension concomitant to asthma.
- easier breathing within minutes – relief lasting for hours.

new, improved **ARLCAPS**
each capsule provides:

Ephedrine Hydrochloride	26 mg. (2/5 gr.)
Ascorbic Acid	100 mg.
Aspirin	130 mg. (2 gr.)
Phenobarbital (may be habit forming)	26 mg. (2/5 gr.)

now contains ascorbic acid

Professional samples available from:

The **ARLINGTON CHEMICAL COMPANY**
division of U. S. Vitamin Corporation
Yonkers 1, N. Y.

QUESTION: What is the present status of vitamin B_{12} and histamine in the therapy of multiple sclerosis?

M. D., Idaho

ANSWER: *By Consultant in Neurology.* Vitamin B_{12} has no specific therapeutic value in the treatment for multiple sclerosis. Considerable amounts are being used, but no evidence indicates that the drug is helpful in any way; the same may be said of intravenous histamine treatment, although employed extensively in the treatment of multiple sclerosis. In those cases in which improvement has resulted, the patient is probably going into spontaneous remission. To date no medication has proved of specific value in the treatment of this disease.

QUESTION: In a recent number of *Modern Medicine* (Oct. 15, 1952, p. 88) reference was made to "Mallory-Weiss syndrome." I have been unable to find a description of this syndrome. What is it? Can you give me any references to the literature?

M.D., California

ANSWER: *By Consultant in Internal Medicine.* The Mallory-Weiss syndrome is an eponym designating hemorrhage from lacerations near the esophagogastric junction secondary to the trauma of prolonged vomiting, the familiar hemorrhage of acute alcoholic gastritis.

The following references may be helpful:

Mallory, G. K., and Weiss, S. Hemorrhages from lacerations of the cardiac orifice of the stomach due to vomiting. *Am. J. M. Sc.* 178:506-515, 1929.

Weiss, S., and Mallory, G. K. Lesions of the cardiac orifice of the stomach produced by vomiting. *J.A.M.A.* 98:1353-1355, 1932.

when the findings suggest

GOUTY ARTHRITIS

prescribe . . .

NEOCYLATE*

with COLCHICINE

Specific in Diagnosis. "The symptomatic response of acute gouty arthritis to the use of colchicine is both dramatic and diagnostic."[1]

Specific in Therapy. "The mainstay of treatment of acute gouty arthritis is still colchicine . . ."[2]

"Salicylates cause a maximum increase in the excretion of uric acid and give a satisfactory analgesic effect."[3]

Specific in Prophylaxis. "Colchicine has a pre-eminent place also in the prophylaxis of acute gout . . ."[2]

Salicylates are advocated for routine use with colchicine between attacks of acute gouty arthritis.[4]

Each NEOCYLATE* with COLCHICINE Entab* contains:

Sodium Salicylate	0.25 Gm.	(4 gr.)
Para-Aminobenzoic Acid	0.25 Gm.	(4 gr.)
Ascorbic Acid	20.00 mg.	(1/3 gr.)
Colchicine	0.25 mg.	(1/250 gr.)

Supplied: Bottles of 200, 500, and 1000 yellow, capsule-shaped tablets (enteric coated).

Also available: NEOCYLATE Entabs and Syrup NEOCYLATE (without colchicine).

1. Thorn, G. W., and Kendall, E., Jr.: in Harrison, T. R., editor: Principles of Internal Medicine, Philadelphia, The Blakiston Company, 1950, p. 697. 2. Gutman, A. B., et al.: Am. J. Med. 9:799, 1950. 3. Myers, W. K.: Am. Practitioner 3:158, 1948. 4. Talbott, J. H.: GP 5:38, 1952.

*Trademark of The Central Pharmacal Co.

THE CENTRAL PHARMACAL CO., SEYMOUR • INDIANA *Products Born of Continuous Research*

Washington LETTER

Hearings Hint Direction of Magnuson Report

IF the Magnuson Commission has its way, we can assume that there will be some changes—important changes—in the financing of medical care.

Every member of the commission is fairly certain that the country isn't providing as much or as good medical care as it could provide; if they weren't inquiring minds by nature, and dissatisfied with slow progress, they wouldn't have been appointed in the first place.

Currently the commission staff is busy working up the report to be presented to President Truman before the end of this month. Periodically the 14 commission members come to Washington, receive progress reports, and decide on recommendations. Because of the mass of testimony, a great deal of staff work has been necessary, but at no time has the commission lost touch with what's going on. A few members themselves put in long and tedious hours analyzing testimony and blocking out sections of the report. This is encouraging, in view of the scores of other "reports" turned out by hired staff employees and to which committee or board or commission members usually merely lend their names for prestige reasons.

"Good news, Doctor. I've smuggled you into our budget again!"

The final conclusions reached by the President's Commission on the Health Needs of the Nation have not as yet been made public; only a very few

rumors have leaked out so far. But the commissioners, through questions and comments at the yearlong series of hearings, have given significant evidence of where they believe changes should be made.

Specifically, what new laws, regulations, or technics may they be expected to propose in their report?

Without any question they will want to see new experiments looking toward extension of voluntary hospital, surgical, and medical care insurance. Many of the more influential members have indicated that they want the federal government to appropriate money for subsidization of health insurance. There is some resistance to lump-sum federal grants to the various insurance plans, probably enough to keep such a recommendation out of the majority report. But there appears to be almost complete agreement that the money has to be distributed somehow, probably through the states with a sum earmarked for each subscriber whose income places him in the "medically indigent" group.

It is reasonable to conclude that the commission favors extending unemployment compensation to include payment of health insurance while the policyholder is unemployed. If there is any serious opposition to this idea, it was not perceptible at the hearings. Because unemployment-compensation funds are administered by the states, not the federal government, organized medicine may be expected to be less suspicious of this proposal than one involving an all-federal operation.

At the hearings, several commission members made strong arguments for opening federal and state payrolls for health insurance deductions. If this should be authorized, voluntary insurance membership would increase several million, almost automatically. At present the federal government allows no such deductions; some states permit them, others do not.

Also, the commission may decide to come out for direct federal assistance to medical schools, although there is some uncertainty on this point. A few members feel that the schools are enlarging rapidly enough without the federal subsidy, and that the muddled finances can be straightened out by state and private contributions. At least

"What's a 10-letter word meaning a scientist's workshop?"

it is certain the commission will make some pronouncement on this subject.

Regarding national compulsory health insurance, the Truman-Ewing plan, there may be a favorable minority report, but there is no possibility at all that socialized medicine will receive the blessing of the majority.

The commission probably will tell both factions that are arguing over federal help to local public health departments to compromise their dispute and help Congress write a law. For two years this legislation, already passed by the Senate, has been dormant in a House committee. The main argument is over definition of local public health services.

Whatever the conclusions of the commission, this report is certain to be a point of reference for all medical legislation proposed in the next two years. And this will hold true regardless of the party in the White House.

"Easy, podner!"

Civil Defense Program

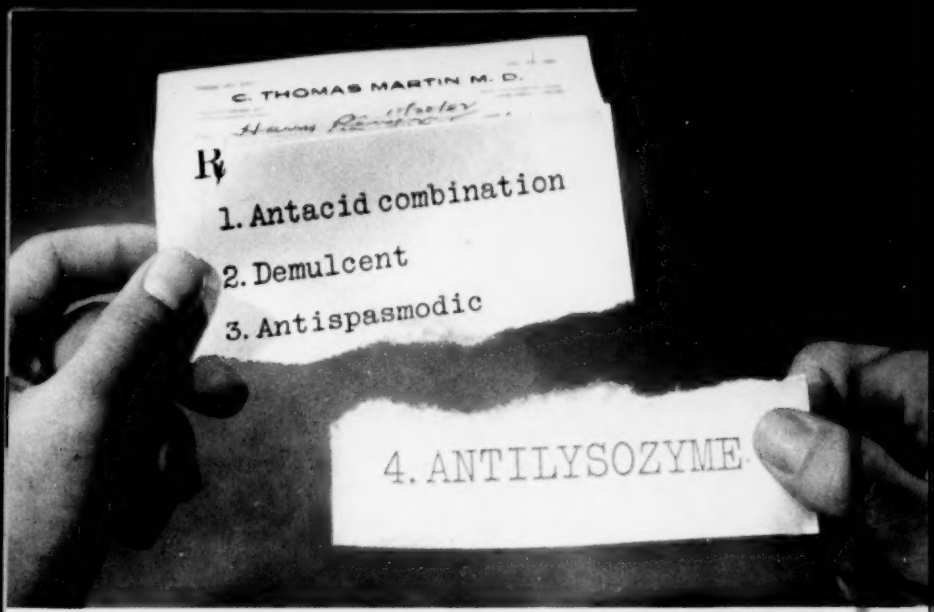
Although controversy constantly encircles and impedes many other government medical programs, the work of the Federal Civil Defense Administration's medical department goes on smoothly, rapidly, and with a minimum amount of criticism.

Most of the money made available for its program last fiscal year was spent or committed by the end of the year, last July 1. Now it has allocated $15 million to states in matching funds for purchase of local medical stockpiles the current fiscal year. Also, CDA has earmarked $34 million for collection of blood for its own regional stockpiles. The speed with which this money will be spent depends entirely on progress of the new donor campaign being conducted by the National Blood Program.

CDA also is making satisfactory progress in building up its own, as distinct from state and local, medical stockpiles.

In brief, the CDA medical program is doing its full job, quietly and economically.

Taking note of this one bright spot, Defense Mobilizer Henry Fowler in his last quarterly report informed President Truman that the CDA medical program was making "most encouraging progress." He thought particularly worthy work was being done in procuring first-aid, medical, and surgical supplies, emergency blood donor and transfusion equipment, plasma, and plasma expanders.



Isn't this too often the missing fourth
in peptic ulcer therapy?

KOLANTYL INCLUDES THE IMPORTANT 4th FACTOR

1. **A SUPERIOR ANTACID COMBINATION** (magnesium oxide and aluminum hydroxide, also a specific antipeptic).
2. **A SUPERIOR DEMULCENT** (methylcellulose, a synthetic mucin).
3. **A SUPERIOR ANTISPASMODIC** (BENTYL Hydrochloride) which provides direct smooth muscle and parasympathetic depressant qualities without "belladonna backfire."
4. **INACTIVATION OF LYSOZYME**—Laboratory research and clinical studies[1,2] indicate that lysozyme plays an important role as one of the etiologic agents of peptic ulcer. By inhibiting or inactivating lysozyme with sodium lauryl sulfate, KOLANTYL includes the important 4th factor toward more complete control of peptic ulcer.

KOLANTYL

DOSAGE: 2 Kolantyl tablets or 2 to 4 teaspoonfuls of Kolantyl Gel every 3 hours as needed for relief.

1. Hufford, A. R., Rev. of Gastroenterology, 18:588, 1951
2. Miller. B. N., J. So. Carolina M. A., 48:1, 1952

No "Belladonna BACKFIRE"

with this prompt, positive relief of FUNCTIONAL G.I. SPASM

More and more published clinical studies continue to prove that BENTYL provides effective relief from pain, cramps and general discomfort due to functional G. I. spasm . . . without "belladonna backfire."

Trade-mark "Bentyl" Hydrochloride

℞ BENTYL

SAFE, DOUBLE-SPASMOLYSIS

Each capsule or teaspoonful syrup contains
BENTYL . . . . . 10 MG.
when sedation is desired
BENTYL . . . . . 10 MG.
WITH PHENOBARBITAL . . . . . 15 MG.

DOSAGE: *Adults*—2 capsules or 2 teaspoonfuls syrup 3 times daily, before or after meals. If necessary repeat dose at bedtime.
In Infant Colic—½ to 1 teaspoonful syrup 3 times daily before feeding.

Washington Notes

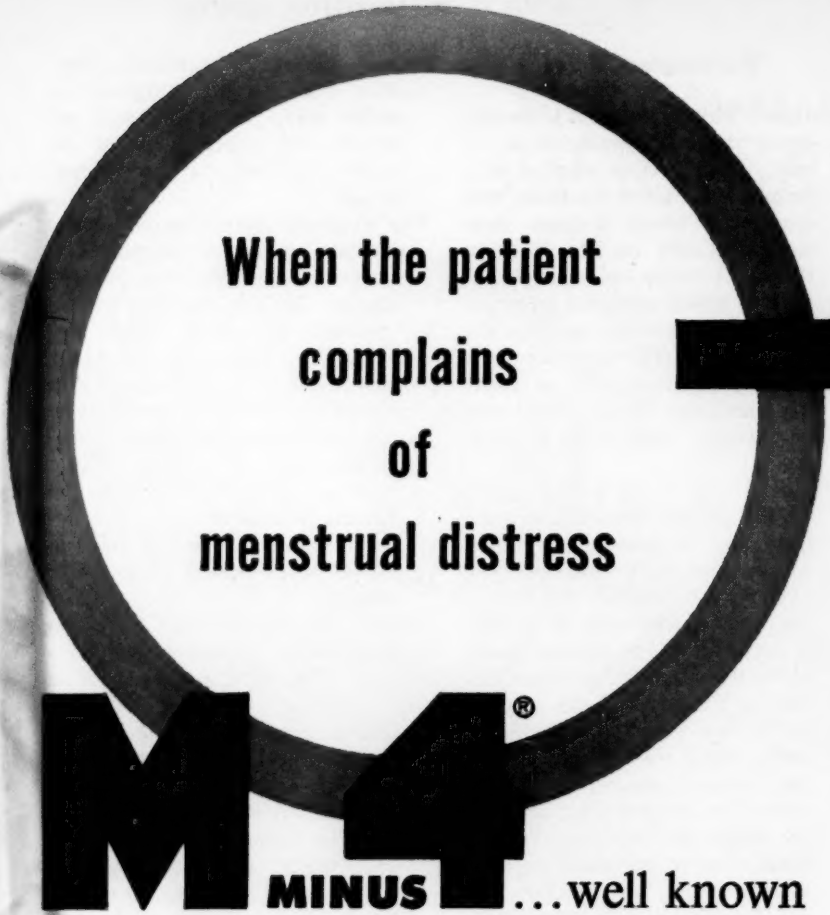
National Blood Program's current donor drive is significant in at least one respect. It assumes that people, once given the facts, will contribute blood without constant reminder of The Boys in Korea. Actually, only a minute part of blood collected over the last few months has gone to the fighting men. The need now, and for the last six months or more, has been for civilian uses and emergency stockpiling of plasma.

Principal reason for establishment of the World Health Organization—the international control of communicable disease—has been accomplished, as far as the legal framework of control is concerned. The United States, along with most other non-Communist nations, has put into effect a new international sanitary code, which was provided for in the original charter of WHO. American experts were active at all stages in drafting the new code. As a consequence, this country made no objection during the ninety days allowed.

As time nears for opening the new U.S. Clinical Center at Bethesda, Md., the government medical officials are constantly repeating that the center will help, not hinder, other hospitals and private practitioners. Dr. John A. Trautman, director of the center, also emphasizes that the training program will "return to nonfederal institutions as many good men as we receive." Initially, it will need about 70 clinicians but, once the training program is under way, about 50 will be turned out annually, most of whom will not stay in federal service.

The Veterans Administration budget cuts resulted in discharge of several thousand persons, but, according to VA, none were of "professional status." This explanation is interesting but of no help to the many consultants and attending physicians who served VA on a per diem basis. Technically, VA is correct. These men are not considered to be VA employees, they are not being discharged, there is just no money to pay them all for their services.

Walter Reuther, UAW-CIO president and a member of the President's Health Commission, is in a peculiar situation. Officially CIO is promoting national compulsory health insurance. But, waiting for progress in that direction, UAW has had to participate in voluntary health plans and has set up its own clinics. Mr. Reuther is paying lip service to the national CIO policy, but at the same time doing everything possible to make the voluntary plans work. Not so Al Hayes, also a commissioner and president of the International Machinists Union, which is working for socialized medicine. Mr. Hayes can see mostly shortcomings in the voluntary plans, and was not hesitant in saying so when he appeared at commission hearings.



M-4®

MINUS ...well known for its ability to ease the symptom-complex of premenstrual tension... also allays the pain and discomfort of menstrual distress.

PREMENSTRUAL TENSION AND DYSMENORRHEA

- **headache... backache... malaise**
- **nervousness... irritability**
- **abdominal distention**
- **breast tenderness**

A combination of clinically sound anti-edema and analgesia agents, M-Minus 4—

relieves abdomino-pelvic swelling and headache by releasing excess tissue fluids

provides analgesia for the cramps and psychic disturbances often accompanying menstruation

M-Minus 4 contains:
N, N-Dimethyl-N'-(2-pyridyl)-N'-(p-methoxybenzyl) ethylenediamine 8-bromotheophyllinate [Pyrabrom].....50 mg.
Acetophenetidin.....100 mg.
—Bottles of 24 and 100 tablets.

Whittier
LABORATORIES
Chicago 11, Illinois
A DIVISION OF NUTRITION RESEARCH LABORATORIES, INC.

Arthralgen

arthralgesic unguent—relieves joint and muscle pain, increases blood flow in rheumatic and muscular disorders, aids in the local treatment of arthritis.

Combines the 3-way synergistic action of (1) Vasodilation (Methacholine chloride 0.25%) (2) Rubefaction (Thymol 1%) and (3) Analgesia (Menthol 10% and Methyl Salicylate 15%) in a highly absorbable ointment base.

relieve tension and hyperexcitability

Your patients who "can't seem to relax"—who feel tense and anxious yet have no organic basis for their disturbance—may be promptly relieved by prescribing Oranixon, the first Council-accepted brand of mephenesin. Oranixon will relax these patients without "doping" them. You will find that two or three 500-mg tablets daily usually suffice to keep these patients pleasantly and comfortably at ease. Try Oranixon as well for some of your patients whose mentality and motor functions are "imprisoned" by hyperactive reflexes. Oranixon is available in 250-mg and 500-mg oral tablets (specially compounded for rapid disintegration and full activity) and in an elixir containing 400 mg of mephenesin per teaspoonful.

Organon INC. • ORANGE, N. J.

ORANIXON®

Organon

Our Office Nurse

Think of a gag that fits the illustration. For every issue a new gag is published and the author is sent $5. The Dec. 1 winner is

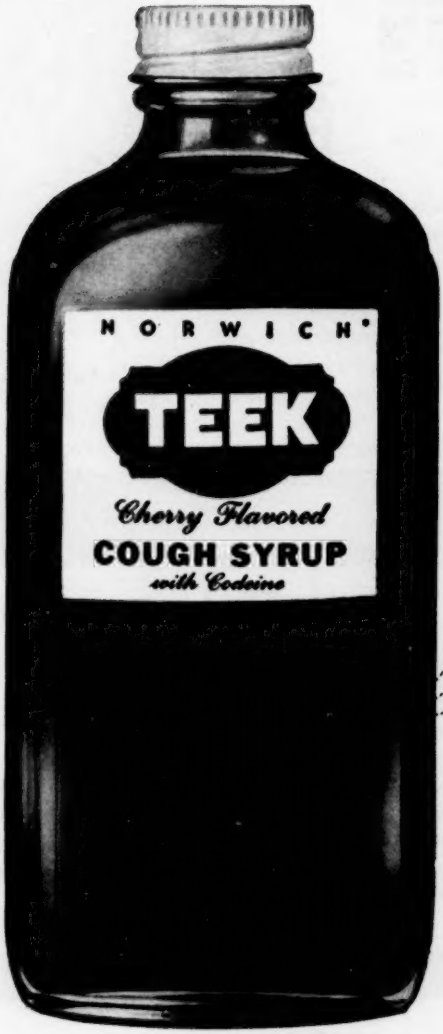
Harry S. Fist, M.D.
Los Angeles

Mail your caption to
The Cartoon Editor
Caption Contest
No. 3

MODERN MEDICINE
84 South 10th St.
Minneapolis 3, Minn.

"I said she should have a Mantoux, not a man, too."

TEEK for coughs



Contains codeine ⅓ grain per oz.; extractives of squill, ipecac and Sanguinaria; chloroform and alcohol.

Exempt narcotic—prescription not required.

provides:

prompt cough relief

effective expectorant action

soothing, palatable vehicle

Delicious Cherry Flavor

EATON LABORATORIES Inc.
NORWICH, NEW YORK

NO BORIC ACID!

Diaparene® CHLORIDE

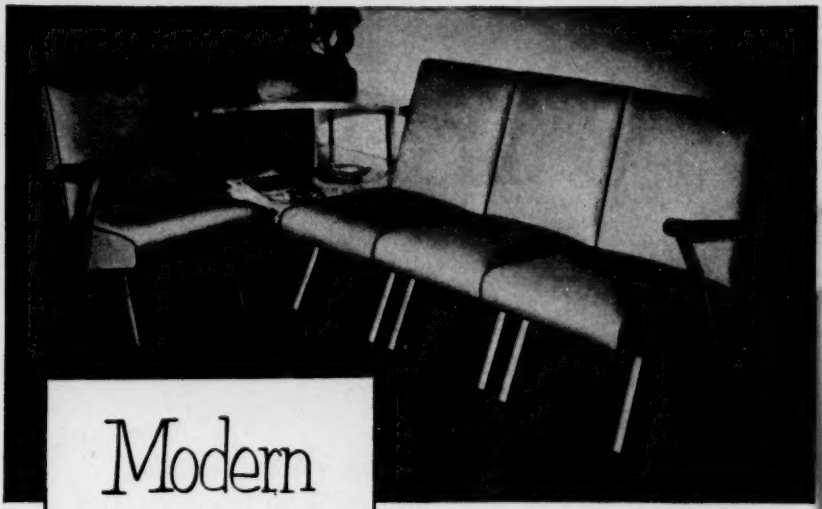
(METHYL BENZETHONIUM CHLORIDE)

BACTERICIDAL • WATER-MISCIBLE • SAFE[2,3]

The ever-present possibility of boric acid poisoning by transcutaneous absorption, when the skin is broken, indicates the physician's and nurse's need of making sure to recommend to every mother a "diaper rash" dusting powder and ointment containing *no boric acid*.

1. Fisher, R. S. "Notes from The Office of the Chief Medical Examiner," Baltimore, Md., April, 1951.
2. Benson, R. A., et al.: "The Treatment of Ammonia Dermatitis with Diaparene," *J. Ped.* 34:1-49, Jan., 1949.
3. Niedelman, M. L., et al.: "Ammonia Dermatitis. Treatment with Diaparene Chloride Ointment," *J. Ped.* 37:5-762, Nov., 1950.

PHARMACEUTICAL DIVISION, HOMEMAKERS' PRODUCTS CORPORATION, NEW YORK 10



Modern sectionals...

designed with your reception room in mind!

Stools

Chairs

Desks

Here's quiet elegance and luxury for your office...with the glowing beauty of new hand-finished Royal Satin Chrome accenting the slim grace of smart square tubing. Royal sectional chairs are responsive to any arrangement—use them settee fashion, around corners, back to back, or individually. In every way, they reflect your excellent taste.

Royal . . . your only single source for over 150 metal furniture items.

ROYAL METAL MANUFACTURING CO.

175 North Michigan Avenue, Dept. 1312 • Chicago 1

New York • Los Angeles • Michigan City, Ind.
Warren, Pa. • Preston and Galt, Ontario

Royal

metal furniture since '97

ROYAL METAL MFG. CO.
175 N. Michigan Ave., Dept.1312 Chicago 1

Please send me a free copy of your new Royal catalog.

Name_____

Address_____

City_____ Zone____ State____

MODERN MEDICINE
THE JOURNAL OF DIAGNOSIS AND TREATMENT

The EEG
greatly aids diagnosis

A Modern Medicine Editorial

It is sad that as yet few physicians are taking advantage of the great diagnostic help that the expert on electroencephalography could often give them.

Here, for instance, is a young man with headaches of a migrainous type but so severe that he screams with pain. Careful and pertinacious history-taking reveals the fact that one of his uncles had epilepsy. An electroencephalogram is ordered and proves to be typically epileptic in configuration. The patient is given an anticonvulsant and that is the end of the headaches.

Another young man was brought to a physician by his father because, he said, the son was only a sorrow and a problem to him. The youth had such a vile temper that he commonly got into fights and, since he was powerfully built, often injured his opponent. He tended to walk in his sleep and was likely to beat up anyone who tried to wake him. Occasionally he drank to excess. An electroencephalogram showed a typically epileptic record, and the use of a drug suppressed the explosive behavior. Another young man was having great difficulty in getting through college because of jitteriness, much nervousness, and spells of mild depression. His electroencephalogram showed that he was an epileptic without fits.

Few physicians realize that Lennox, Cobb, and others have shown that only 1 in 10 or 20 epileptics ever has a fit. Many of the rest of them have violent tempers, some have peculiar neuroses, and some have what look like minor psychoses or they

have somewhat psychopathic personalities with difficulties in adjustment to life. Some of them have severe headaches, curious spells of faintness or dizziness, strange uncanny feelings, curious distresses in the head, sexual difficulties, or what they call "frightened spells."

Even when one of the new drugs does not work a miracle in these cases, at least it is helpful for the physician to know that his patient has an equivalent of epilepsy. Sometimes it greatly cheers the son of an epileptic to know that he has a normal electroencephalogram. This probably does not eliminate the possibility of the inheritance of epilepsy by his children, but it is encouraging.

Certainly an electroencephalogram should be made whenever a person is suffering from headaches after a severe blow on the head, and one should be made whenever there is a question of brain tumor.

According to a splendid book on electroencephalography edited by Denis Hill and Geoffrey Parr, and published by Macmillan in 1950, between 10 and 12% of supposedly normal persons have abnormal electroencephalograms. Persons with neuroses are somewhat more likely to have such abnormal records. Doubtless, as years pass and experience accumulates, experts will understand better what these changes mean.

Most schizophrenics and many manic depressives have normal records, and even a person with defective mentality can show a normal record. There seems to be no correlation between the intelligence quotient and the type of encephalogram.

WALTER C. ALVAREZ

Treatment for Keloids

At the last AMA meeting, Theodore Cornbleet reported that the injection of keloids with a solution of hyaluronidase has been highly successful. The pain, tenderness, and itching gradually waned and disappeared, and the keloids softened and shrank to half the original height above the skin. The remaining wrinkled tissue was then cut away. In none of the cases did the keloid return. Apparently the hyaluronidase softens the glue-like mass that holds the foreign cells together.—W.C.A.

Special Article

Problems in the Conduct of Consultation

SIDNEY LEIBOWITZ, M.D.*
Beth Israel Hospital, New York City

Prepared for Modern Medicine

IN the practice of medicine, consultations are frequently necessary. It is useful to bear in mind the proper division of responsibilities.

The attending physician remains responsible for the care of the patient and the consultant is expected to provide an opinion and advice and to refrain from further professional activity in the case unless the attending physician specifically requests it.

The behavior of physicians and patients in the course of these consultations is a source of numerous problems. It is the purpose of this paper to analyze these problems with the hope that constant reexamination of the relations of physicians to patients and among physicians themselves will result in better care for the patient and, in the process, fewer heartaches for the doctor. Most of the difficulties come from understandable carelessness and hurry. In some instances the problems arise because of the high emotional pitch to which an individual is subjected under the circumstances.

This is particularly true of difficulties emanating from the patient, who is sometimes irritated by the seemingly rigid medical code of ethics if it operates to deprive him of desired services or to subject him to undesired services. Suffice it to say that the code is intended for the patient's protection and if the code is applied so as to deprive him of desired services, it is either being misused or the patient requires enlightenment on the nature of the code itself.

Most of the problems are not easily avoided and, while meriting full discussion and analysis, and eradication wherever possible, they are not a reflection of ill intent. Unnecessary consultations and improper conduct of consultants are exceptions. It is sad that we must even recognize the existence of such abuses, but it is far less distasteful to do so with the hope of eliminating them than to have the initial finger raised at the entire profession from an outside source.

Many pitfalls and heartaches in the consultation system may be avoided by prior preparation and thought. More attention to the origins of the occasional breach of conduct in a routine but necessary

*From the Medical Service, Beth Israel Hospital, New York City.

medical procedure will lessen the actual occurrences.

THE ATTENDING PHYSICIAN

First let us consider the role of the attending physician.

If the situation is one in which the attending physician recognizes his limitations at the moment, suggests to the patient the need for a consultant, and is either partially or completely instrumental in selecting the individual consultant, there need be no problems at all. But let us break down this hypothetic set of circumstances into the component parts:

1] *"If the physician recognizes his own limitations at the moment."* This is a big "if" but ordinarily presents no difficulties. It should first be made clear that the use of the term "limitations" is in no sense a critical one. Every physician has his relative strengths and weaknesses, usually in direct proportion to his more steadfast pursuit of some fields to the inevitable lesser concentration on others. Certainly when the attending physician feels limited in his ability to reassure his patient completely there cannot be even the remotest tinge of reproach if he seeks the advice of someone particularly skilled in the field.

Possibly the physician is not capable of performing major surgery and rightfully suspects that the patient has an acute intestinal obstruction. The need for an opinion from a surgeon capable of performing the necessary surgery is paramount. Possibly a surgeon recognizes the occurrence of a medical complication requiring the help of an internist. Possibly one physician is uneasy about his patient with subacute bacterial endocarditis and desires the benefit of another's extensive experience with the disease. These are justifiable circumstances about which nobody can take issue.

However, the physician who is fearful of responsibility of any degree and constantly seeks consultation reveals a true inadequacy which is psychologic and permanent. He would be wise to channel his efforts into a field of medicine other than private practice. His neurotic behavior will line the pockets of his consultants and unnecessarily deplete the resources of his patients. Fortunately such a practitioner is rare.

The reverse is much more common: a reluctance to seek consultation because it may indicate dependence and weakness. While the physician's self-esteem is of importance to himself, it is of minor consequence compared to his responsibility for his patient's welfare. A realization that at times even the best of minds cannot solve problems without assistance and that a proper call for consultation reflects wisdom and good judgment is all that is needed to free such a physician from his confused approach to the problem.

2] *"Suggests to the patient the need for a consultant."* As a corollary of the above reflections, it follows that the physician should suggest to the patient, or responsible members of his family, the need for a consultation when the situation requires it. It would seem that

no problems exist on this issue, but at times they do.

First, on rare occasions, a physician unthinkingly holds a consultation with a colleague without prior discussion with the patient or family. No great harm arises from this, except that it may be a source of considerable and abrupt anxiety to the unprepared patient and his family; it may needlessly instill in them doubts respecting the self-confidence and ability of the attending physician; and it may be a source of great embarrassment to everybody concerned when the charge for the consultation is submitted. Proper preparation for the consultation by a discussion explaining the need will obviate all these difficulties.

Secondly, the preliminary discussion concerning the necessity for a consultant should be conducted as candidly as the circumstances permit, but with a view to achieving increased peace of mind for the patient and family rather than increased apprehension. If the opinion is being sought preliminary to surgery or other curative or remedial procedure, the facts should be presented clearly and frankly. If the patient is thought to have a fatal disease and is faring poorly despite treatment, the approach to the subject of calling a consultant will vary with the nature of the patient, the composition of his family, and their interrelationships.

No stereotyped approach is possible and no dogma can be laid down beyond the principles that the patient or family shall not be needlessly upset or falsely encouraged and that the attending physician must be convinced that some good purpose will be served by the consultation. This does not rule out instances in which a consultant is called primarily to lend continued encouragement to a patient whose prognosis is hopeless and whose family, knowing the true state of affairs, urges such subterfuge. This also falls under the category of serving some good purpose.

3] *"Is either partially or completely instrumental in selecting the individual consultant."* In most instances the choice of a consultant is left completely in the hands of the attending physician. Under these circumstances few difficulties can arise if the physician is guided by the principle that he shall select a capable person who is particularly suited to tackle the problem.

It is natural that the physician will first turn for assistance to those he knows best. It is also understandable that he will tend to protect his own legitimate interests so that his continued service on the case is not jeopardized.

For example, if an internist has been caring for a cardiac patient whose inguinal hernia has become increasingly distressing, a surgical opinion may be in order. If the patient does have a herniorrhaphy, close medical care is indicated and the initial physician is perfectly capable of rendering this care. However, if the operation is performed at a hospital at which he is not a staff member, it may not be feasible for the internist to continue the active care of his patient. It is therefore perfectly understandable,

in this case, that the internist will seek a surgeon from the staff of his own hospital. As long as the surgeon selected is capable of the required task, these considerations can be resolved satisfactorily.

However, in the selection of a consultant, the physician should not rigidly confine himself to those who are readily available—on his staff or within his small circle of friends or acquaintances. This source, particularly for physicians practicing in metropolitan communities, usually suffices well, but in smaller communities it may be necessary to look beyond immediate medical circles. In exceptional instances even in big cities the proper choice may be a particularly qualified person on the staff of another hospital or in a nearby city.

When the services of a particular physician are singularly desirable, the attending physician should not preclude his selection because of distance or lack of personal relationship or even because of antagonism from past associations. Admittedly, it is hard to expect a physician to call in consultation a colleague for whom he has great distaste on personal grounds. However, if that choice cannot be readily matched by any other from the standpoint of professional competence, the patient involved is entitled to the services of that consultant if he is available; the attending physician must submerge his personal feelings.

Knowledge of the patient's financial resources will occasionally temper the decision and be a factor in selecting from several equally qualified candidates whose scales of fees are not the same. However, the actual fee involved is not often a determinant; at least, it rarely deprives the patient of the services of a specifically desired person who is reasonably accessible, because all physicians have learned to adjust their charges as circumstances dictate. This is particularly true when the attending physician explains the need. For this reason, the physician would do well to arm himself with some accurate estimate of his patient's financial capabilities so that no injustice will be done to patient *or* consultant.

In times of great emotional crisis, patients and their families in poor or modest circumstances tend to overextend themselves financially. "Money is no object" when urgent consultation is contemplated, but the attending physician has some responsibility not to stand idly by and permit his patient to spend sums that are completely beyond his means. This restraint should be firmly applied, of course, when the need for the consultation is open to legitimate question. If consultation is imperative, as when subsequent surgery is obviously indicated, the restraint should take the form of consulting with a capable surgeon whose fee will not be astronomical in relation to the patient's ability to pay.

Let us devote some consideration to the implications of the phrase "partially instrumental in selecting the consultant" insofar as it reflects upon the actions of the attending physician. This envisages a situa-

tion in which the patient or family expresses a preference for one of several names suggested by the physician. No difficulty should arise here; even if the physician had an order of preference, the very submission of several names by him implies that any one of them is acceptable as a consultant.

Before suggesting a panel of names, the physician should be completely satisfied that all on that panel will be proper selections. It will do no good to dilute his only true choice with the names of several lukewarm alternates, because the patient has the right to choose the one he prefers. It might be wiser, in such circumstances, for the physician to submit the name of the one person who, he believes, can fill the particular need.

Before leaving the province of the attending physician, the writer wishes to broach a delicate subject which most definitely is related primarily to the attending physician. The laudable, constant urge for advancement up the hospital staff ladder may tempt a physician to use all the resources at his command to impress the chief who holds the power to retard or speed his rise. Not the slightest criticism is intended here for the repeated, or even exclusive, use of a man's chief as a consultant whenever the needs are suited to the latter's field of medicine. However, a practice that should be criticized is the manufacture of excuses for this consultation when their existence on medical grounds is questionable.

The sole judge of this necessity must be the attending physician; the consulting physician is never in a position to assess accurately the simulated or real need for his services. Only the attending physician can know whether, in effect, he is misappropriating his patient's money as an attempted indirect bribe, the success of which will depend upon the gullibility or perspicacity of the particular chief involved. The latter, of course, is only human and is constantly being subjected to pressures. However, with the experience, character, and integrity inherent in most men occupying such positions of responsibility, it is hoped that these machinations are sooner or later perceived and exposed.

The Patient

In discussing the patient, the writer includes not only the patient but his family, because frequently, when dealing with the sick, arrangements for additional medical opinions are made with a responsible relative. Hereafter the term "patient" will imply "patient or family."

Most of the anticipated difficulties with the patient in arranging a consultation will be avoided if the attending physician does not consider it a unilateral affair in which the patient is to be merely mute and abundantly grateful for the doctor's efforts. The phase of the problem dealing with adequate preliminary discussion with the patient has already been covered but, beyond the concurrence in the necessity for employing a consultant, other sources for friction may exist in the conduct of the patient.

Occasionally the patient, or a zealously solicitous family member, originates the question of seeking an additional opinion. Doctors are human beings, after all, and their egos are not to be dismissed too lightly. The suggestion that another physician be called can very easily be misinterpreted by the attending physician, if pride is great, into a gesture of lack of confidence.

However, if the physician has put his best efforts into a case, he should be willing at all times to permit a review by another eye. The necessity for this review, in his opinion, may be completely lacking, but if the patient wishes it, the attending physician must and should acquiesce and cooperate. Certainly if the patient, although originating the request, is deferring completely to his physician for the actual selection of the individual consultant, the physician has little with which to take issue.

If, however, the patient, rightly or wrongly, sees a need for a consultant and then proceeds to name his choice, there is source for trouble. If the selection is, happily, a renowned person, it is merely a question of the attending physician's burying any rising pride and contacting the chosen consultant.

If the choice is an obscure name, it behooves the attending physician to determine quickly, through the many sources at his disposal, an individual's qualifications for the assignment. Unless he is convinced by investigation that the nominee is totally unqualified or has an unsavory reputation, the patient's physician should fully cooperate in the arrangements for, and conduct of, the consultation. Even under these circumstances it is surprising how excellent a person the consultant may prove to be and how true is the aphorism that two heads are better than one.

Only if the attending physician is firmly convinced that the suggested consultant is clearly an improper choice, by virtue of inexperience or on ethical grounds, should he oppose the patient's selection. The attending physician should then ask for, or offer alternative names. If the patient persists in desiring the individual whom the attending physician cannot accept for the reasons stated, the attending physician should offer to leave the case. Fortunately, this eventuality is very rarely necessary, particularly if the physician explains his stand frankly and fully.

Let us reverse our focus, for the moment, from the attending physician to the consultant suggested by the patient. Frequently this physician is one who has previously rendered valued service to members of the family in question. In the present emergency he is asked to consult with the attending physician. Often the patient or family, ignorant of the ethics involved, will call him directly.

The physician thus called has been placed in a difficult situation, but one that is easily rectified if he is not trying to take advantage of the improper approach to displace the first doctor. If he feels that he may have something to offer in the medical problem involved, he

should reply that he will be glad to arrange to see the patient if the attending physician will contact him and request it. Only in this manner should he be willing to interject himself into the case. The only possible exception to this arrangement is when the family is completely dispensing with the services of the initial physician and has notified him of this decision, a privilege which is retained by any patient. Under such circumstances any physician of the patient's choice may then be summoned.

When the patient has introduced a consultant of his own selection into a case, these varying potential sources for friction exist. However, once the preliminary difficulties and improprieties, if any, have been righted, the attending physician has the responsibility to lend all possible assistance to the consultant. This ordinarily includes the courtesy of being present at a mutually satisfactory time, even when the patient is ambulatory and the consultation takes place in an office, and the furnishing of all previously acquired data in the case. The exigencies preceding the consultation and the psychologic insults caused by any impropriety or discourtesy on the part of the patient should not prejudice the physician in the proper conduct of the consultation itself, if he has seen fit to continue with the care of the patient.

The Consulting Physician

The writer has purposely considered the consulting physician last because he ordinarily fulfills his responsibilities with the least likelihood of causing, or being involved in, problems of behavior related to consultations. He is usually the mature and wise man of medicine, a counselor to his colleagues, a man of great experience.

Previously we have alluded to several problems touching on the consultant himself, such as his being consulted unnecessarily by a subordinate or contacted incorrectly (directly) by the patient. As already indicated, these facets of the subject cannot be laid directly at the consultant's door but result primarily from the actions of others. There are, however, several features in the conduct of consultants which merit separate consideration.

The main function of the consultant is to benefit the patient while enhancing the confidence of the patient in the attending physician. In most cases these two purposes are inextricably intertwined, but in a rare case the consultant is faced with the sad fact that the attending physician is incompetent and does not merit the patient's confidence. When we speak here of "incompetence" we are referring not so much to lack of knowledge of a subject or failure to undertake measures that are open to legitimate debate, but mainly to out-and-out neglect or even charlatanism.

Fortunately this occurs very seldom but when it does it poses a considerable problem. What is the consultant to do? He must resolve his dilemma in the light of the patient's needs and welfare. The attending physician's pride and the consultant's desire not to hurt a

colleague are less important considerations.

By one approach or another, the consultant must keep a weather eye on the patient. This may be accomplished by gently steering the patient to the guidance of a physician capable of handling the problem, or he may see fit not to provoke a complete severence of the initial physician's services but skillfully to superimpose either himself or another physician under one plausible excuse or another. Should he do this abruptly and publicly? No good purpose is served by thus endangering the confidence of the patient and his family in physicians for all time.

Although some immediate remedial action is indicated insofar as the patient's care is concerned, it is difficult to say what the consultant should do about the physician himself. Nobody wishes to set himself up in judgment on his fellow men and no physician willingly makes charges against another physician as incompetent. If no repetition is anticipated, it is understandable that the consultant should close the book on the incident.

However, if the offending physician is deemed to be a continuing source of future difficulties of a similar nature, it is probably a prudent and justified principle to indict him through proper medical channels, whether within a hospital's organization or through the special committee of the local medical society. All in all this is a very distasteful subject, from which physicians understandably shy away, but as the occasional consultant sadly and reluctantly discovers, it must be faced.

The situation begs for integrity on the part of consultants, a quality which, fortunately, most of them possess, not to invite abuses of the other extreme—that is, falsely charge an attending physician with incompetence and then displace him on this spurious basis. It behooves the consultant who is confronted with the distasteful conclusion that his referring physician is incompetent to be absolutely certain of his facts, to make careful records of the basis for his conclusions, to avoid publicity in the matter, and to be prepared to document his charges when called upon to do so.

In addition to serving the patient, the consultant has a secondary responsibility to the attending physician. He owes him the expected courtesy of promptness once the appointment has been made. He owes him the courtesy of an unhurried consultation and later discussion. Nothing is more distressing to an attending physician, who has gone to great preliminary pains to arrange for the consultation and to gather all the clinical and laboratory data the consultant may need, than to be met by the consultant as though he were the head end of a tornado. The entire procedure, in such hurried hands, may last five or ten minutes. The patient is left more dyspneic than before and the attending physician is left wondering what struck him and whether it was worth the bother.

The consultant may very well have been extremely busy, but un-

der these circumstances he was neglecting his responsibility for instruction to the man who called him, to say nothing of common courtesy. It would serve better for all concerned if the consultant selected an hour when he could afford the necessary time or else suggest that he would not be available.

Lastly, we come to a situation which is rare, but nonetheless does exist. Briefly, we refer to the undermining of the confidence of the family and patient in the attending physician, a principle absolutely contrary to one of the cardinal responsibilities of a consultant.

The devices employed to accomplish this are several, all usually devious and subtle except to the distraught referring physician, who soon recognizes the fine Machiavellian hand at work. It may take the form of innuendo, as in saying, "Dr. Blank is perfectly capable of performing this operation even though he *is* a little young and enthusiastic," or "Dr. Blank is the ablest *young* physician I know," or "Even if I had been called earlier I doubt that I could have done *much* better." It may take the form of minor and meaningless changes in the therapy already in use.

All this is usually said in the presence of the attending physician. In his absence, in itself improper, the undermining may consist of disquieting encouragement to the family as follows, "I shall not let you down. I promise to keep an eye on your mother's progress and see her again as you wish. Dr. Blank will keep me advised on how things go and may consult with me frequently." Or "Dr. Blank and I do not see eye to eye here, but he is capable and under my restraining hand he will do well with your father."

An even less subtle approach is to criticize or disagree openly with the attending physician in the presence of the patient or family, when the differences of opinion are legitimate and form the basis for the differential diagnosis which made the consultation necessary in the first place. Similar nonsubtle methods are the arrogant rejection of therapy already adopted as illustrated broadly by the oft-quoted command, "Throw that medicine away!"

There is a legitimate manner of disagreeing with the original physician, if need be, or of debating a difference of opinion, if it exists, without imparting it to the patient so as to destroy the usefulness of the attending physician. It is rare, indeed, that the consultant's advice is not completely accepted and put into effect.

What are the possible motives behind such undermining behavior? They can be only three: [1] desire to displace the attending physician, [2] unsurmountable ego which will not tolerate praising another—a manifestation of basic insecurity, and [3] stupidity. The very existence of such practices is sad indeed and unfair to that overwhelming majority of American physicians who remain faithful to the letter and spirit of their professional oath. The only saving grace is the relative rarity of occurrence.

Recovery from carbon tetrachloride poisoning usually occurs if the patient can be kept alive for two weeks.

Carbon Tetrachloride Poisoning

ALBERT V. MYATT, M.D.
U. S. Public Health Service, Atlanta

JAMES A. SALMONS, M.D.
U. S. Public Health Service Hospital, Savannah, Ga.

MANY nonindustrial cases of poisoning by carbon tetrachloride are probably undiagnosed because the symptoms and signs resemble those of hepatitis, nephritis, or congestive heart failure. The material is considered relatively safe by the public and is widely used as a cleaning agent.

The toxicity of carbon tetrachloride is enhanced in alcoholics, in malnourished or obese persons, and in individuals with peptic ulcer, hypertension, or hepatic, renal, pulmonary, or cardiac disease. Poisoning is produced by inhalation, contact with the skin or mucous membranes, or ingestion.

Albert V. Myatt, M.D., and James A. Salmons, M.D., warn that in every case of jaundice, nephritis, or congestive heart failure without previous occurrence of such disease, the patient should be specifically asked about the use of solvents and cleaning solutions.

Immediate symptoms of carbon tetrachloride inhalation are dizziness, giddiness, sense of fullness in the head, headache, and, occasionally, nausea. If the concentration of fumes is heavy, mental confusion and even unconsciousness may result.

Ingestion will usually cause nausea and vomiting immediately, with diarrhea soon afterward.

Later manifestations may include loss of appetite, fatigue, abdominal pain, jaundice, and hematemesis. Kidney damage with progressive oliguria may occur as early as twenty-four hours after exposure and persist for from twelve to fourteen days.

If untreated during the oliguric phase, the patient may have swelling of the face and a gain in weight, followed by basal râles in the lungs, hypertension, increased pulse rate, peripheral edema, and ascites. Pericarditis may appear, based either on uremia or on a direct toxic effect.

Death usually occurs before the fourteenth day in case of fatal renal damage. Pulmonary edema is the usual cause of death if therapy is inadequate. Patients may die during the diuretic phase. Myocardial damage causing congestive failure, overwhelming toxicity, or toxic serum potassium levels may prove fatal despite therapy.

Carbon tetrachloride poisoning. Arch. Indust. Hygiene & Occup. Med. 6:74-82, 1952.

The following treatment is suggested:

Poisoning by inhalation—The patient should be removed to fresh air. Artificial respiration and oxygen may be necessary. Caffeine may be given as a stimulant.

Poisoning by ingestion—Immediate copious lavage of the stomach should be performed with plain water. No milk or other fatty liquids are used because of the possibility of fat embolism. No alcohol should be administered. Magnesium sulfate is given orally.

Later treatment of poisoning by any route—The patient should be watched for signs of liver or kidney disease. A low-fat, high-calorie diet is started, especially if the patient is a known alcoholic, poorly nourished, or has been previously poisoned by solvents.

If nausea and vomiting occur, the patient should be hospitalized. If jaundice alone occurs, the patient should rest in bed and receive a low-fat diet, choline, methionine, and calcium preparations, and vitamin K. If food cannot be retained by mouth, glucose in water, with just enough saline solution to replace that lost by vomiting, is given intravenously.

If oliguria occurs, lower nephron nephrosis is probable, alone or with liver damage. Restricted fluid intake is the most important step in maintaining life.

The use of the artificial kidney and peritoneal lavage should be restricted to cases with dangerously high levels or to patients who have been given excessive sodium and fluids.

The tendency is for recovery from carbon tetrachloride poisoning, as the liver and kidneys have remarkable powers of regeneration after tissue damage by this compound. Therapy, therefore, should be aimed at keeping the patient alive until spontaneous recovery can occur.

Resistance to Mercurial Diuretics

F. DREYFUSS, M.D.

PRONOUNCED hypoproteinemia may cause resistance to mercurial diuretics in patients with severe congestive heart failure.

F. Dreyfuss, M.D., of the Rothschild Hadassah University Hospital, Jerusalem, reports that after the administration of plasma the diuretic response to mercurials was much improved in a patient with severe chronic rheumatic heart disease. From 400 to 500 cc. of plasma given before the mercurial diuretic increased the urinary output 2 to 4 times.

Similar therapeutic effects were obtained in another case by intravenous injection of serum albumin preceding the diuretic.

Hypoproteinemia in intractable congestive heart failure and the use of plasma infusions in its treatment. Cardiologia 20:306-311, 1952.

Electrolyte replacement is easier if one unit of measure is used for all components of extracellular fluid.

Fluid and Electrolyte Balance

O. M. HELMER, PH.D., AND K. G. KOHLSTAEDT, M.D.
Indianapolis General Hospital

THE replacement of deficiencies of body fluid and electrolyte is best accomplished if a system of measurement expressing chemical equivalence is utilized.

Diagnosis and treatment of maladjustment is unduly complicated, emphasize O. M. Helmer, Ph.D., and K. G. Kohlstaedt, M.D., if the physician uses milligrams per cent, volumes per cent, or grams per 100 cc. instead of the milliequivalent.

Under normal conditions the extracellular fluid, the plasma plus the interstitial fluid, contains approximately 155 mEq. per liter of cations and an equal number of anions. When all components of the extracellular fluid are expressed in the same unit, the total concentration of cations and anions can be obtained.

The usefulness of milliequivalents in planning the treatment of electrolyte and fluid imbalance is best illustrated by examples:

• *Estimating the amount of solution necessary to return the electrolyte concentration to normal.* The extracellular fluid volume is 20% of the body weight. The following formula is a rough guide for determining the amount of each ion needed for replacement:

$$\text{amount of ion needed (in mEq.)} = \frac{\text{patient's wt. in kg.}}{5} \times \left\{\text{normal value of ion in mEq./liter}\right\} - \left\{\text{patient's level in mEq./liter}\right\}$$

CHEMICAL EQUIVALENCE—The equivalent weight of a substance is the gram molecular weight or the weight in grams corresponding to the molecular weight divided by the valence. The molecular weight of sodium hydroxide is 40 and that of hydrochloric acid 37. One gram molecule dissolved in 1 liter of water is a molar solution.

If equal quantities of molar solution of sodium hydroxide and hydrochloric acid are mixed, neutralization results. Each solution contains the same number of active particles per unit volume; however, the weights of the substances per unit volume are quite different. Since 1 mole of sodium hydroxide exhibits the same combining power as 1 mole of hydrochloric acid, the substances are equivalent mole for mole.

Substances react also on the basis of valence; for example, 1 mole of calcium possesses twice the combining power of 1 mole of sodium. Therefore, 1 mole of calcium is equal to 2 equivalents of sodium. The unit of measure is the milliequivalent, which is 1/1000 of an equivalent.

The milliequivalent as a unit of measure in calculating electrolyte deficiencies in body fluids. J. Indiana M. A. 45:413-415, 1952.

Thus, a patient weighing 154 lb., or 70 kg., with plasma sodium of 132 mEq. would require: $\frac{70}{?} \times (142-132) = 140$ mEq. of sodium. Physiologic saline contains 155 mEq. of sodium per liter, therefore $\frac{140}{155} = 0.9$ liter or 900 cc. of physiologic saline is needed to replace the deficit.

• *Calculating the quantity and composition of the repair solutions needed.* First the normal volume of extracellular fluid is estimated, this being one-fifth of the body weight in kilograms. The total extracellular sodium and chloride are then calculated by multiplying liters of extracellular fluid by milliequivalents per liter. The total deficit is then obvious.

If the deficit of sodium is greater than that of chloride, a preparation should be used that contains sodium in combination with an anion that can be metabolized. One of the best solutions for this purpose is ⅙ molar sodium lactate. Each 6 cc. supplies 1 mEq. of sodium.

Impending Hepatic Coma in Cirrhosis

GERALD B. PHILLIPS, M.D., AND ASSOCIATES

NITROGENOUS material given during liver disorders may cause a state indistinguishable from impending hepatic coma.

Of 9 alcoholics with advanced cirrhosis, 5 reacted to an ammonium potassium cation-exchange resin, ammonium chloride, di-ammonium citrate, urea, or increased dietary protein.

Each substance provoked mental dullness or confusion, a flapping tremor of extended hands and arms, and often the distinctive electroencephalographic pattern of slow waves.

High level of blood ammonium was the most frequent biochemical change noted by Gerald B. Phillips, M.D., Robert Schwartz, M.D., George J. Gabuzda, Jr., M.D., and Charles S. Davidson, M.D., of Harvard University, Boston. However, perhaps because effects may vary with tissue rather than blood concentration, no dependable relation was established.

Although reasons for the syndrome are not clear, ammonium may be directly or indirectly responsible. Cirrhotic subjects seem unusually susceptible, but hepatic damage may not be essential for reaction, since patients with other diseases were not tested.

Symptoms apparently are not due to alterations in serum *p*H, sodium, potassium, or carbon dioxide or in blood nonprotein nitrogen. The same degree of acidosis caused by ammonium chloride can be reproduced by calcium chloride, but apparently not the precomatous state.

The syndrome of impending hepatic coma in patients with cirrhosis of the liver given certain nitrogenous substances. New England J. Med. 247:239-246, 1952.

Ballistocardiography provides one more method of evaluating the condition of the cardiac patient.

Clinical Ballistocardiography

EDWARD RUBENSTEIN, M.D.
Washington University, St. Louis

THE ballistocardiograph is proving of worth in cardiovascular diagnosis, especially of early coronary artery disease. The instrument may also be of definite value in assisting the physician to assess prognosis for the cardiac patient, remarks Edward Rubenstein, M.D.

Although a ballistocardiograph was first described in the nineteenth century, the modern era of ballistocardiography began in 1936 when Isaac Starr initiated his now famous studies.

The instrument employed by Dr. Starr is termed a high-frequency undamped ballistocardiograph and consists, fundamentally, of a hard, movable table top supported by short lengths of flat steel spring. The subject lies supine on the table and the impacts and recoils generated by his heart and circulating blood are transmitted to the table. The excursions of the table in the longitudinal plane are recorded on film by means of an appropriate pick-up device and camera.

A normal cardiovascular system causes the inscription of a set pattern of ballistic waves (Fig. 1) called H, I, J, K, L, M, N, and O. Waves H through K are systolic in time and of most importance. During diastole, certain afterwaves appear which are less uniform in occurrence, size, and configuration. The diastolic waves are normally of smaller amplitude than the systolic waves.

Although not in complete agreement as to the genesis of the ballistocardiographic pattern, most workers in the field attribute the various waves to the following circulatory events:

H wave—occurs during isometric ventricular contraction and is due to either atrial contraction or movement of the ventricle preparatory to ejection or both.

I wave—a footward recoil to the ventricular ejection of blood into the aorta and pulmonary artery.

J wave—usually the largest deflection present and caused by the impact of blood at the aortic arch and pulmonary artery bifurcation and ac-

Fig. 1. Normal ballistocardiogram recorded by modified Dock machine

A review of clinical ballistocardiography. New England J. Med. 247:166-173, 1952.

celeration of blood down the aorta.

K wave—the final systolic deflection begins prior to the second heart sound and is due to deceleration of blood in the aorta, at its bifurcation and in the smaller arteries.

As yet the origin of the diastolic waves L, M, N, and O is unknown. The waves may represent specific blood mass movements or may be merely aftervibrations of the systolic forces.

The large, table type of ballistocardiograph is seldom used outside of research centers. However, the development by Dr. William Dock of a simple portable ballistocardiograph has greatly facilitated use in smaller hospitals and clinics as well as by physicians in office practice.

Whereas the table type depends on motion of the body and table as a unit, the portable ballistocardiograph is designed to pick up oscillations of the skeletal frame moving within the soft tissues of the back and legs.

Three pick-up devices are available. One consists of a photoelectric cell which notes the motion of an occluding strip resting on the shins. Another method employs a pulse-recording capsule which is placed against the head. The third and most reliable pick-up is a magnet placed between 2 copper electric generating coils which move with motions of the shins.

Any amplifying-recording apparatus such as an electrocardiographic machine may be used in conjunction with one of the above pick-ups.

Since ballistocardiography is a relatively new science, interpretation of the records is only qualitative. Probably in the near future certain quantitative normal limits of duration and amplitude of waves will be added. For the present, however, simple inspection of the general pattern, regularity, and relative deflection size is used.

A clear-cut repetitive pattern is normally present although respiration may cause variations in size of up to 50% between complexes. Larger variations may mean cardiac disease (Fig. 2A).

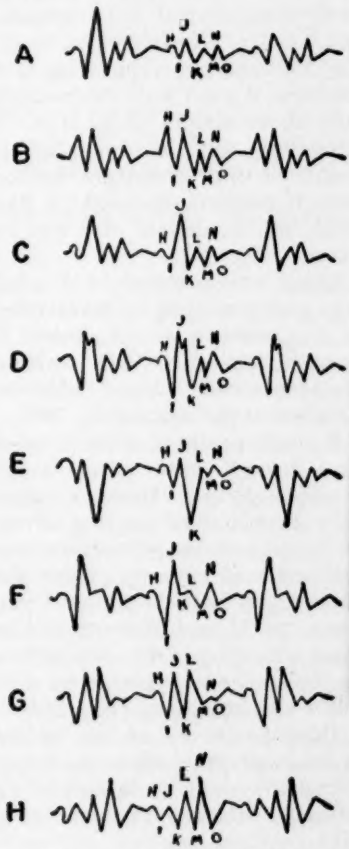


Fig. 2. Abnormal patterns

If the ballistocardiograph reveals no definite pattern, the so-called chaotic record, serious cardiovascular disease is most probably present.

Individual complexes are then inspected. The H wave is occasionally absent normally but usually is readily discernible. The H wave may be as tall as the J wave in some abnormal tracings (Fig. 2B).

The first downward deflection, the I wave, should be prominent with a sharp, clearly defined nadir. The ballistocardiograph is judged abnormal if the I wave is rounded, notched, or shallow (Fig. 2C).

Similarly, the J wave normally is prominent with a sharply defined apex. If notched, rounded, or flattened, cardiac disease may well be present (Fig. 2D).

The K wave is abnormal if larger than the preceding J wave (Fig. 2E). Contrariwise, an absent K wave is abnormal. This wave is characteristically absent with coarctation of the aorta (Fig. 2F).

Extreme notching of the limbs of the I, J, or K waves also is a sign of heart disease. However, most older people show slurring of the JK segment. Some patterns are seen sufficiently often to be named. For example, an early M pattern forms when the H and J waves are of equal size (Fig. 2B). Similarly a deeply notched J wave forms a so-called late M pattern (Fig. 2G).

Diastolic waves are less helpful in diagnosis. Only when the largest deflections occur in diastole is significance attached to them (Fig. 2H).

Abnormal ballistocardiographic patterns cannot be correlated with specific etiologic or anatomic diagnoses. However, the pathologic physiology causing some wave distortions can often be reasoned out.

For example, a large H wave is often seen in hypertension and is probably the result of an increased cardiac impact as the ventricle ejects blood. Distorted I or J waves could be caused by abnormal or weakened ventricular systole and are often seen with coronary artery disease and after myocardial infarction.

The absent K wave in coarctation of the aorta is caused by the lack of a rapid flow of blood in the descending aorta. Ballistocardiograms of over-all low amplitude are seen in congestive heart failure with low cardiac output. Conversely, very large systolic waves occur when the cardiac output is high as with thyrotoxicosis, fever, or exercise.

Although the ballistocardiogram is usually abnormal with organic heart disease, exceptions occur. Patients with compensated valvular heart disease occasionally have normal ballistocardiograms. On the other hand, extracardiac factors such as anemia, shock, or myxedema may distort the ballistocardiogram. Further clinical use of the instrument will doubtless improve clinical correlation of patterns and disease.

The portable high-frequency ballistocardiograph is poorly suited for estimating cardiac output. For this purpose a low-frequency critically damped instrument is preferred.

Duodenal intubation is simplified by employment of a polyethylene tube tipped with a weighted metal bucket.

Polyethylene Duodenal Tube

MILTON J. MATZNER, M.D., HAROLD ZAROWITZ, M.D., PETER WEDEEN, M.D., AND GEORGE L. COHN, M.D.
Jewish Hospital of Brooklyn

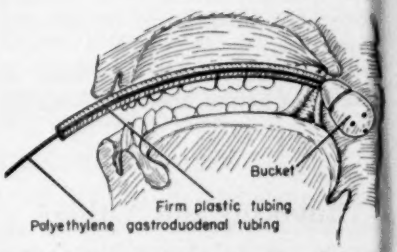
A GASTRODUODENAL polyethylene tube with a specially designed metal weighted bucket eliminates many of the disadvantages of conventional tubes.

Polyethylene is smoother, lighter, and more pliable than rubber and has less friction. Intubation with plastic tubing, even for prolonged periods, is not irritating or uncomfortable.

The bucket used by Milton J. Matzner, M.D., Harold Zarowitz, M.D., Peter Wedeen, M.D., and George L. Cohn, M.D., consists of two threaded sections which are readily screwed and fitted into each other. The bucket, olive-shaped to permit easy passage, weighs about 6.7 gm. and is ¾ in. long with a ⅜-in. diameter.

The distal section of the metal tip has one central and four lateral openings. The polyethylene tubing is flanged over the proximal end of the bucket and is 52 in. long.

To facilitate introduction of the tube and prevent coiling in the patient's mouth, a firmer 12-in. length of plastic tubing of moderately large diameter is threaded over the finer gastroduodenal tube. This will serve as an introducer and guide tube through which the narrower polyethylene tube is readily passed. A Luer-Lok syringe inserts into the proximal end for instillation or aspiration.



Introduction of tubes into oropharynx

The polyethylene tube and introducer are lubricated by immersion in cold water. With the patient in a sitting position, the guide tube is moved and held close against the bucket while the unit is passed over the tongue and into the oropharynx (see illustration). The smaller-bore polyethylene gastroduodenal tube is rapidly threaded through the guide tube while held in the original position in the oropharynx.

The patient is encouraged to swallow frequently during passage of the tube. The finer tube is threaded for a distance of about 34

Simplified duodenal intubation with a new polyethylene tube. Gastroenterology 21:419-424, 1952.

in., leaving about 18 in. of unpassed tubing from the patient's mouth to the coupler. The operator must determine the length of tubing necessary for each individual. Rarely is anesthetization with 1% Pontocaine necessary to depress a hyperactive gag reflex.

The patient then lies on the right side for completion of intubation. The tubing is affixed to the patient's face with small strips of cellulose tape.

The intubation may be done on the night before operation with the tube remaining in situ overnight without discomfort.

Usually radiographs are not necessary to establish the localization of the tube. Two hours after introduction, 10 cc. of warm water is slowly instilled. Failure to produce more than a few cubic centimeters on aspiration and show of bile indicate that the tube is in the duodenum. Acid reaction to Töpfer's reagent indicates localization in the stomach.

The tube requires no special personnel or constant supervision.

Smoking and Asthma

GUSTAVUS A. PETERS, M.D., LOUIS E. PRICKMAN, M.D.,
GILES A. KOELSCHE, M.D., AND HADDON M. CARRYER, M.D.

NO ASTHMATIC patient should ever smoke. All affected individuals have some bronchitis, and most have considerable involvement.

Inflamed areas are extremely sensitive, and smoke of any kind is irritating, declare Gustavus A. Peters, M.D., Louis E. Prickman, M.D., Giles A. Koelsche, M.D., and Haddon M. Carryer, M.D., of the Mayo Clinic, Rochester, Minn. Even a healthy person using a pack of cigarets daily frequently begins to cough, and the asthmatic patient is invariably affected sooner.

Any benefit of so-called asthma cigarets or burning powders that contain stramonium or nitrates is nullified by the tobacco fumes. Smoker's throat and smoker's larynx are not figments of the imagination. When the irritant is removed, effects usually promptly disappear.

The fact that skin tests for allergy to tobacco products are negative is no proof that smoking can be tolerated. If the habit continues, the best known regimen for chronic asthma may fail.

Tobacco smoke stimulates the respiratory tract to secrete protective mucus. Only the oversupply that tickles the upper trachea should be expelled, preferably with gentle clearing of the throat. Asthmatic persons should be taught to avoid aggravating hard coughing.

Smoking and asthma. Proc. Staff Meet., Mayo Clin. 27:329-331, 1952.

Different dietary regimens are advised for patients with familial hypercholesteremia and those with usual arteriosclerosis.

Cholesterol and Vascular Disease

S. J. THANNHAUSER, M.D.
Tufts College, Boston

DIETS low in cholesterol and neutral fats are recommended for persons with familial hypercholesteremia and conditions associated with hyperlipemia. However, with the common type of arteriosclerosis of elderly people, the restriction of cholesterol is not effective in altering the progress of sclerotic changes in the arteries.

Cholesterol Accumulation

The 2 different pathways by which cholesterol accumulates in arterial tissue should be recognized, not only to explain the pathogenesis of the arterial involvement in hypercholesteremic patients in contrast to that in arteriosclerotic patients, but also to clarify the therapy of these conditions.

S. J. Thannhauser, M.D., describes one of the processes of intraarterial deposition of cholesterol as intracellular accumulation of cholesterol in the intimal and subintimal cells. In this condition, serum cholesterol is the primary cause of arterial lesions.

The other process is extracellular precipitation and crystallization of cholesterol in a primarily altered arterial tissue. This occurs independently of the cholesterol level of the serum. Calcium deposition and cholesterol precipitation in the altered arterial wall are probably analogous physicochemical processes secondary to the structural and physical changes of the tissue.

Dietary Treatment

In familial hypercholesteremia, the cholesterol content of the serum should be reduced. For arteriosclerotic patients, reduction of the serum cholesterol level is of questionable value, since the precipitation of cholesterol in a damaged arterial wall is independent of the cholesterol content of the serum.

Reduction of an increased cholesterol content of body fluids to a normal level is difficult if not impossible since cholesterol is constantly synthesized in the body and the synthetic process cannot be influenced.

The problem may be approached in the following ways:

Cholesterol-containing foodstuffs, such as eggs, butter, cream, and meat, should not be eaten. The dietary intake of fat should be restricted insofar as practical. A diet of about 1,700 calories, containing 20 to 30 gm. of fat chiefly in the form of pure vegetable fat, 80 gm.

The significance of cholesterol in the pathogenesis of vascular lesions. New England J. Med. 246:695-702, 1952.

of protein, and 300 gm. of carbohydrate, seems appropriate in familial hypercholesteremia.

Thyroid, 1 to 2 gr., may be administered daily, but should not be prescribed if the patient has anginal pain.

Choleretic substances should theoretically increase the biliary excretion of cholesterol, but the available choleretics, such as bile acids, have not been efficient enough for this purpose. Lipotropic substances, such as choline, methionine, or inositol, do not reduce the serum cholesterol.

With the usual type of arteriosclerosis, a diet low in calories—50 gm. of neutral fat—irrespective of the content of cholesterol-bearing foodstuffs, is apparently sufficient.

Somnolent Metabolic Test of Thyroid Function

RICHARD L. RAPPORT, M.D., GEORGE M. CURTIS, M.D. AND SARAH JANE SIMCOX

In the differential diagnosis of thyroid disease, determination of the basal metabolic rate during intravenous nembutal anesthesia is more reliable than the usual technic, report Richard L. Rapport, M.D., George M. Curtis, M.D., and Sarah Jane Simcox.

Effects of nervousness and other exciting factors are eliminated, and only actual thyroid activity is registered. The test is safer than the Sodium Pentothal method and is readily done in the office without an anesthetist.

The somnolent test was employed for 152 subjects at Ohio State University, Columbus. Excellent correlation was obtained with the clinical impression and with serum protein-bound iodine. In each case, 2 basal metabolism tests were made before the somnolent metabolic test was performed; results were compared.

Preparation for the somnolent test is similar to that for an ordinary basal metabolism test. Nothing is eaten from 10 P.M. the previous day.

After at least a half-hour rest, nembutal is injected in a concentration of 50 mg. per cubic centimeter, beginning with 50 mg. and continuing with 25 mg. per minute until sleep results. Total dosage is about 212 mg. with a range of 75 to 500 mg.

The rubber mouthpiece is inserted and held in place with adhesive tape. After 2 consecutive tests are made, the patient is awakened by ordinary conversation and sent home with a companion. The patient may remain alert or sleep more or less continuously until the next morning.

The somnolent metabolic rate (SMR) as an aid in the differential diagnosis of thyroid dysfunction. Tr. Am. Goiter Assoc. 1951, pp. 124-138.

A committee of the National Research Council summarizes critical clinical information on brucellosis.

Diagnosis of Human Brucellosis

W. W. SPINK, M.D.
University of Minnesota, Minneapolis

N. B. MC CULLOUGH, M.D.
Bethesda, Md.

L. M. HUTCHINGS, D.V.M.
LaFayette, Ind.

C. K. MINGLE, D.V.M.
Beltsville, Md.

MANY physicians are using unreliable methods in diagnosis and treatment of brucellosis, especially the confusing skin sensitivity test and attempted desensitization with antigen.

The only absolute proof of infection is isolation of *Brucella* from the patient. Suspicions of brucellosis are reasonably well confirmed by a positive agglutination reaction if the titer is at least 1:320. Practical diagnostic technics are explained by W. W. Spink, M.D., N. B. McCullough, M.D., L. M. Hutchings, D.V.M., and C. K. Mingle, D.V.M.

Unfortunately, materials and procedures of agglutination are not standardized for human disease. Antigen comparable to the excellent veterinary type should be made available to all laboratories.

Culture of venous blood is generally successful in the initial acute stage of brucellosis or during exacerbations, but several specimens may be required. The most suitable mediums are trypticase-soy broth and Albimi *Brucella* medium, dispensed in culture bottles with cotton stoppers.

A 1% solution of sodium citrate is added to either medium, then 5 to 10 cc. of blood. The bottle is incubated at 37° C. in a closed jar with 10% of the atmosphere replaced by carbon dioxide.

Subcultures are made on trypticase-soy or Albimi agar plates on the fourth day and at regular intervals unless growth occurs. Plates are incubated in a jar containing an atmosphere with 10% carbon dioxide, and initial cultures are kept for a month.

Since an occasional strain prefers slightly reduced oxygen tension, a rubber stopper may be employed in the culture bottle and carbon dioxide introduced directly by needle puncture.

Though somewhat less efficient, the Castaneda method avoids dan-

Diagnostic criteria for human brucellosis. J. A. M. A. 149:805-808, 1952.

ger of contamination by transfer to agar plates and is less likely to infect personnel. Agar is layered on a narrow side of a rectangular bottle before the broth is inserted, and instead of subculture, the broth is spread over the agar by tipping the bottle every forty-eight hours.

If only clotted whole blood is available for culture purposes, the serum is withdrawn, and the clot is broken up and cultured in liquid medium.

Brucella organisms tend to localize in reticuloendothelial tissue and may be isolated from 2 or 3 cc. of sternal bone marrow. Bacteria may be obtained from excised cervical nodes that enlarge during febrile relapse, or from granulomatous tissue of bone or lungs. Cut surfaces of tissue specimens are smeared directly on solid agar mediums.

Some cultures are made with arterial blood sampled after administration of epinephrine, bile procured by duodenal drainage, urine of subjects with chronic pyelonephritis, or cerebrospinal fluid with chronic meningitis.

Antigen for agglutination tests should be prepared from a completely smooth culture of *Brucella*, using any of 3 species. Organisms are grown on a solid medium such as liver-infusion agar, washed off with saline solution, centrifuged, resuspended, and killed by heat, formaldehyde, or phenol. The resulting product is standardized with a colorimeter and compared to a known material.

The test utilizes serum from 3 or 4 cc. of venous blood. For each sample, 0.9 cc. of isotonic sodium chloride solution is placed in the first of 10 tubes and 0.5 cc. in the remaining 9 tubes. With a serologic pipet of 1-cc. capacity, calibrated to 0.1 cc., 0.1 cc. of serum is dropped in the first tube, and the mixture of sodium chloride solution and serum is drawn up and expelled seven or eight times.

Then 0.5 cc. is transferred from the second to the third tube and so on through the tenth. The resulting dilutions range from 1:20 to 1:10,240.

Each tube receives 0.5 cc. of antigen, and incubation is done in a water bath at 37° C. for forty-eight hours. The end point may be taken as the highest dilution with either 50% or 100% clumping of bacterial cells.

In most culturally proved cases, titers are 1:100 or more. However, farmers and other persons exposed to *Brucella* may have levels of 1:320 or higher without being ill.

At times, values are less than 1:320 in the early stage of infection but rise significantly during the course. Titers often fall below 1:100 within a year after recovery. In some cases agglutinin entirely disappears, but in others the level remains elevated indefinitely.

Cross agglutination can occur with *Pasteurella tularensis* and *Vibrio comma*. Agglutinins for *Brucella*, often in high titer, may develop after immunization against cholera. Such agglutinins may be differentiated from *Brucella*-induced antigens by reciprocal absorption tests. False serologic reactions may also follow skin tests or antigen therapy.

Special Exhibit

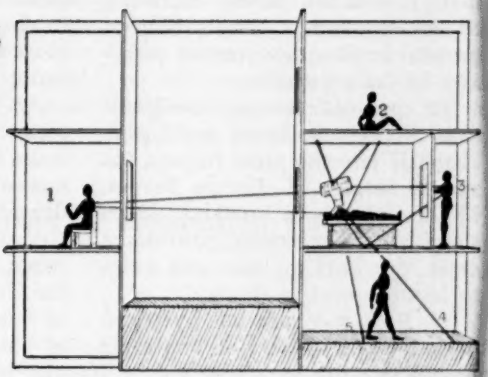
Protection from Radiation

Shielding Is a Must

Adapted from a presentation, "X-Ray Research and Protection," on the Scientific Exhibit program at the American Medical Association Convention at Chicago, made by L. S. Taylor, H. O. Wyckoff, U. Fano, H. W. Koch, and S. W. Smith, National Bureau of Standards, Washington, D.C.

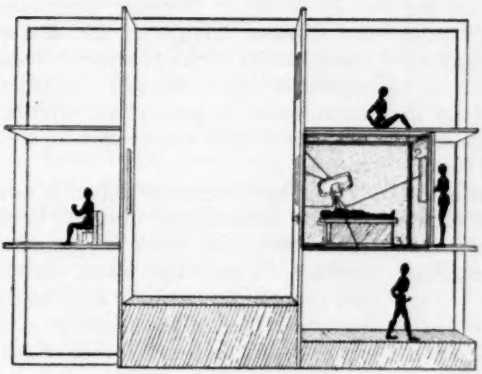
INADEQUATE

Inadequately shielded 250-kv., 15-milliampere x-ray unit in a typical building exposes persons nearby to unsafe levels of radiation. The minimum safe dosage is 0.3 r per week.



Amount of Radiation

1 10 mr per hour
2 1,000 mr per hour
3 350 mr per hour
4 90 r per hour
5 10 r per hour



ACCEPTABLE

The above shielding is acceptable for the same apparatus if useful beam does not strike ceiling or walls, basement is not occupied more than 10% of a 48-hour week, and x-ray unit operates not more than 48 hours a week.

Shielding

1 4. 2 mm. lead or 8.4" concrete
2 2.4 mm. lead or 4.8" concrete
3 5.6 mm. lead or 11.2" concrete
4 0.8 mm. lead or 1.6" concrete

A technic is described permitting severance of blood and lymph channels before manipulation of the lesion.

Physiologic Resection of the Right Colon

J. PEYTON BARNES, M.D.
Baylor University, Houston

THE principle of severing the vascular and lymphatic channels of a malignant lesion before removing or manipulating the cancerous growth is often violated in resection of the right colon.

To prevent forcing malignant cells through the blood and lymph channels into the areas beyond the site of surgery, J. Peyton Barnes, M.D., suggests a method which simplifies the resection, provides a clean, dry working field, and seems to lessen operative shock.

1] Both recti are cut by transverse incision about 1 in. above the umbilicus.

2] Resectability is determined.

3] The site for section of the colon is established, usually a little to the right of the main trunk of the midcolic artery.

4] The omentum is split up to the site selected for colon section.

5] The colon is cleared of all fat at the site of section and is cut between clamps. A straight Ochsner clamp is used on the distal end if an end-to-end closed anastomosis is contemplated.

6] Beginning at this site of colon section, working from above downward, the colon and transverse mesocolon with all vessels and lymph nodes are separated from all posterior relations. As the dissection proceeds, all vessels are identified, doubly ligated, and cut. In completing the incision, branches of the midcolic, right colic, and ileocolic arteries are sectioned.

7] When this incision is complete, the site for section of the ileum is selected and cleared. Since metastases may travel along the ileocolic artery, this must be included. The ileum is then cut between clamps. The mesentery of the ileum is incised upward, and all vessels ligated and cut separately until the incision joins the first one made from above downward through the transverse mesocolon.

8] Without further dissection, the Ochsner clamps on the end of distal colon and proximal ileum segments are brought together; anastomosis is performed, whether open or closed end-to-end or end-to-side.

9] The mesenteric defect is now closed, interrupted sutures being used and placed from the posterior surface. Thus, the blood vessels are more easily avoided and the anterior surface of the mesentery remains smooth and free of suture knots.

Except for removal of the lesion and attached large and small bow-

Physiologic resection of the right colon. Surg., Gynec. & Obst. 94:723-726, 1952.

el, the operation is now complete. The field has, or should have been, dry and clean throughout. Little oozing has occurred and almost no bleeding. No extensive packing of raw spaces has been necessary. The vascular and lymph channels to and from the lesion have all been severed. Especially desirable, the lesion has been manipulated as little as possible.

10] The peritoneum is incised lateral to the colon. This is the first step in present standard technics. By delaying the move until this point, stripping of peritoneum beyond the desired line is prevented. The colon is not mobilized from without inward.

11] Beginning medially and above, working outward and downward, the right colon, mesocolon, with all involved nodes, vessels, and ileum are carefully cleaned from the underlying structures. The growth is removed last of all. By ligating all the vessels first, the amount of oozing in the large raw space is greatly reduced.

12] Colon and ileum are laid over the raw area. A few interrupted sutures suffice to fix the colon and ileum adequately, and the abdomen is closed.

Differential Diagnosis in Abdominal Pain

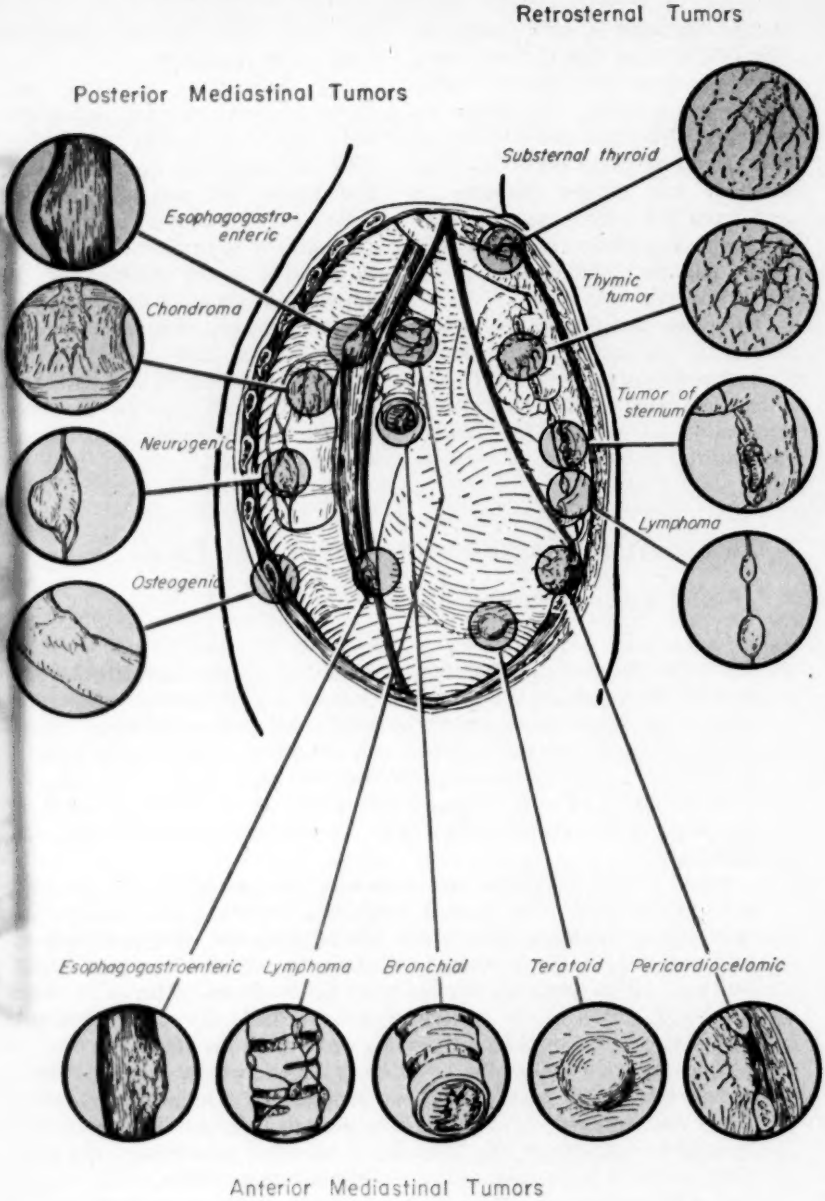
WALTER DICK, M.D.

APPENDICITIS and inflammation of other intraabdominal structures may be distinguished from renal or biliary colic by painful stimulation of the skin area to which the abdominal pain is referred. The stimulus usually brings immediate relief if the pain arises from stone in the kidney, ureter, or gallbladder but will have no effect on symptoms produced by appendicitis, cholecystitis, or pyelonephritis without stone, states Walter Dick, M.D., of the University of Cologne, Germany.

From 5 to 6 injections are made into the cutaneous area of the most severe pain with 2 or 3 drops of distilled water, cardiazol, urea, or any harmless fluid which will produce bee-sting pain at the injection site. A small syringe and a needle with a very small bore are used. Plainly visible wheals must be produced. The pain, and not direct action of the material injected, effects the relief. Similar results can be produced by whipping or burning the skin.

Usually, even before the injection is completed, the patient takes a deep breath and is surprised that the pain has disappeared so suddenly and entirely. If relief is only partial, inflammation probably is superimposed upon the lithiasis. If no relief is obtained, the patient does not have colic and probably has appendicitis.

Die Hautreizquaddel als Diagnostikum bei akuten abdominellen Erkrankungen. Deutsche med. Wchnschr. 77:637-639, 1952.


Retrosternal Tumors
Posterior Mediastinal Tumors
Substernal thyroid
Esophagogastro-enteric
Thymic tumor
Chondroma
Tumor of sternum
Neurogenic
Lymphoma
Osteogenic
Esophagogastroenteric
Lymphoma
Bronchial
Teratoid
Pericardiocelomic
Anterior Mediastinal Tumors

No tumor of the mediastinum can confidently be called harmless; unless obviously hopeless, all should be explored.

Tumors of the Mediastinum

JAMES D. RIVES, M.D.
Louisiana State University, New Orleans

ACCURATE diagnosis of mediastinal lesions depends almost entirely upon highly skilled roentgen examinations. Exploration should be done of all tumors not unmistakably hopeless.

The classification of mediastinal tumors may be reduced to the few types recognizable before or during exploration. Inflammatory masses, such as acute lymphadenopathies, are common but are seldom recognized, states James D. Rives, M.D. Occasionally, large tuberculomas will cause tracheal compression. In certain parts of the United States, large thoracic aneurysms are still common and must be differentiated from neoplasms.

Metastatic lesions from carcinoma of the lungs, breasts, or thyroid are the most frequent mediastinal neoplasms and are quite difficult to distinguish from primary malignant growths.

Substernal goiters are frequent in endemic goiter areas of the country and are almost invariably associated with enlarged cervical thyroid glands. Aberrant thyroid masses may be found anywhere in the mediastinal area.

Primary mediastinal tumors are infrequent, but the types most commonly seen in various parts of the mediastinal space are:

- *Retrosternal position*—the space immediately behind the sternum
  - Thymic tumors
  - Substernal thyroids
  - Tumors of the sternum, costal cartilages
  - Lymphomas
- *Anterior mediastinum*—the space anterior to a frontal plane lying between the trachea and the esophagus
  - Teratoid tumors and cysts
  - Bronchial cysts
  - Esophagogastroenteric cysts
  - Lymphomas
  - Pericardiocelomic cysts
- *Posterior mediastinum*—the space behind a frontal plane lying between the trachea and the esophagus
  - Neurogenic tumors, including tumors originating in the sympathetic chain and spinal nerves
  - Chondromas, usually of the spine
  - Esophagogastroenteric cysts
  - Tumors of the ribs, giant-cell tumors, osteogenic sarcomas, and so on.

Mediastinal tumors. New Orleans M. & S. J. 104:561-566, 1952.

Schematic representation of types of tumors found in the retrosternal and anterior and posterior mediastinal regions

Symptoms and signs, especially in curable lesions, may be entirely lacking. When present, the most common are:

- Substernal discomfort
  - Tightness or pressure
  - A lump
  - Pain
- Cough
  - Vascular murmurs, caused by aneurysms or compression of the great vessels by neoplasms
- Dyspnea
- Dysphagia
- Distended neck veins
- Collateral circulation development on chest wall and neck
- Consolidation in lung fields

Most mediastinal tumors are found during roentgen examinations for other purposes. A wide variety of methods may be used for identification besides routine views. Thus, planograms, esophagrams, angiocardiograms, fluoroscopic examinations, bronchograms, artificial pneumothorax, and films of the spine, ribs, and sternum are of value in establishing the diagnosis.

When severe symptoms appear, the tumor is usually malignant or infected.

With the exception of thymic tumors and substernal thyroid masses, benign tumors tend to originate on one side of the mediastinum and extrude into one lung field without embarrassing vital structures. The benign mass is usually sharply defined, smoothly outlined, and either roughly spherical or lobulated.

Unless the tumor is obviously unresectable, exploration should be attempted because the selection of the method of treatment depends upon the type of lesion. The therapeutic test of irradiation may lead to disastrous delay with a tumor that might have been successfully removed. A few diffuse-appearing tumors can be excised, and no other cure is possible.

All apparently benign tumors should be removed, since malignancy may be present or likely. Many tend to become infected or grow to such large size that serious disability is produced.

Mediastinal operations are conducted with general inhalation anesthesia administered through an intratracheal tube. A transpleural approach enables the operator to visualize one side of the tumor at once and determine the relationship to other mediastinal structures.

The incision should be large enough to permit adequate exposure for safe and sufficient dissection. An anterior incision may be satisfactory for moderate-sized tumors situated anteriorly and above the hilum of the lung. For other lesions, a posterolateral incision, with or without rib resection, is used.

Large retrosternal masses are more safely approached by the transpleural route than by the transsternal.

The malignant mediastinal lesions that spread beyond the limits of the region are rarely if ever cured. Benign tumors and intrinsic malignant tumors are practically always readily removed and the operative risk is very small. Operative mortality and morbidity result from the wide-open thoracotomy rather than from the actual removal of the tumor; the mortality should not exceed 2 to 5%.

Fluoroscopic demonstration of systolic expansion of the left auricle suggests mitral regurgitation.

Diagnosis of Mitral Regurgitation

MILTON ELKIN, M.D., MERRILL C. SOSMAN, M.D., DWIGHT E. HARKEN, M.D., AND LEWIS DEXTER, M.D.
Peter Bent Brigham Hospital, Boston

NO method absolutely assures recognition of mitral insufficiency, but systolic expansion of the left auricle at careful fluoroscopic examination gives valuable and significant evidence of the disease. However, absence of this sign does not have great diagnostic importance, state Milton Elkin, M.D., Merrill C. Sosman, M.D., Dwight E. Harken, M.D., and Lewis Dexter, M.D.

Stenosis of the mitral valve in most cases is quite readily revealed by the characteristic murmur and confirmed by roentgenologic studies. The criteria for establishing diagnosis of mitral regurgitation, of utmost importance to the cardiac surgeon, are not so certain.

In the less common cases, pure mitral insufficiency is manifested by a systolic murmur at the apex and an enlarged left ventricle. Insufficiency associated with mitral stenosis gives rise to left auricular enlargement that could be the result of the stenosis. Reliance on history and physical examination alone for a diagnosis of mitral regurgitation is inaccurate.

The electrocardiogram will reveal right ventricular strain in a case of pure mitral stenosis. The addition of mitral insufficiency increases the work load to the left ventricle and the electrocardiogram may show combined ventricular or left ventricular hypertrophy. This evidence is of limited aid.

Cardiac catheterization is of value in the recognition of mitral regurgitation and also in partial quantitation. However, the method is too complicated for routine use.

The radiologist may be of great help in the diagnosis of mitral insufficiency. The left auricle tends to be larger with regurgitation and stenosis than with pure stenosis. When the mitral valve is incompetent, each systolic thrust of the left ventricle forces part of the ventricular blood back into the left auricle. The increased auricular tension and visible pulsation are related to both the extent of insufficiency and the location of the valvular defect.

Two positions are useful for investigating left auricular expansion: [1] the anteroposterior position and [2] the right anterior oblique position.

Systolic expansion of the left auricle in mitral regurgitation. New England J. Med. 246:958-961, 1952.

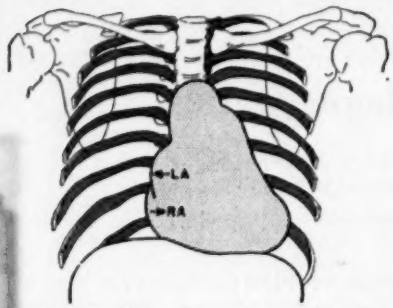


Fig. 1. Anteroposterior position

The right cardiac border as seen in the anteroposterior position presents a double contour. The cranial (left-auricle) and caudal (right-auricle) contours alternate in movement so that a seesaw motion is observed. The upper contour expands laterally in ventricular systole because of left auricular expansion caused by regurgitation of blood from the left ventricle (Fig. 1).

In the right anterior oblique position with barium in the esophagus, a posterior pulsation by the left auricle associated with ventricular systole is observed (Fig. 2).

Another method of measuring mitral regurgitation is used by the cardiac surgeon when performing valvuloplasty for mitral stenosis. If a regurgitant jet of blood is palpated near the mitral valve, a diagnosis of mitral insufficiency is made.

More patients are found to have mitral regurgitation by roentgenologic methods than by surgical observation. A palpable jet from the left ventricle requires sufficient cardiac activity and strength to produce a distinct regurgitant flow. Hence, without discernible peripheral blood pressure, palpable regurgitation is probably not present. Low blood pressure is a common accompaniment of surgery for mitral stenosis.

The mechanisms changing the contour of the left auricle, either during direct laboratory inspection and on the operating table or during fluoroscopic examination, are many. The posterior aspect of the cardiac border, as seen in the right anterior oblique position, may be pushed back by the thickening in systole of a large right ventricle. A similar phenomenon occurs when a vigorously expansile right auricle, associated with tricuspid insufficiency, transmits shock to the left auricle.

Other factors influencing ventricular systolic expansion of the left auricle are intraauricular pressure, elastic stretch of the auricular muscle, auricular dilatation, and irregular rhythm.

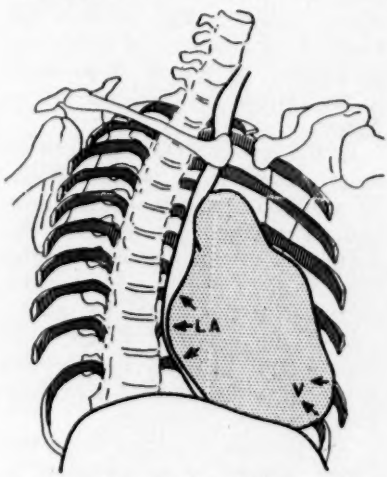


Fig. 2. Right anterior oblique position

With closed fossa tonsillectomy, the surgeon can confidently reassure the patient concerning hemorrhage.

Posttonsillectomy Hemorrhage

ERNEST B. EMERSON, JR., M.D.
University of Rochester, N. Y.

BLEEDING after a tonsillectomy usually results from a hole in a blood vessel and can be prevented by proper closure of the wound and properly chosen antibiotic therapy, states Ernest B. Emerson, Jr., M.D.

Good surgical dissection is the first step in hemorrhage prevention. Ether is given through a Davis-Crowe or McIvor gag. Placing the patient in a modified Rose position eliminates most pulmonary complications, yet gives the best visibility of the tonsil region.

The tonsil is grasped with a tenaculum, and an incision is made through the mucous membrane at the upper pole of the anterior pillar. The tonsil is freed by blunt dissection through to the lower pole. Only then is a snare used, the tonsil root being strongly pulled medially.

Tonsillar extensions into the tongue are removed with a cold wire Tydings snare. Complete tonsil removal may be accomplished by dissection alone, if preferred. Instruments of the guillotine technics are not used.

The fossa may be packed after removal of the first tonsil and the same procedure be done on the opposite side. If bleeding is rather profuse, especially in a child, the fossa should be sewed up directly.

Branching vessels to the tonsil from the anastomotic network in the tonsillar fossa are very small, and those entering the pillars are of capillary size. The fossa can thus be closed without including the pillars, and postoperative hemorrhage can be prevented entirely or at least be as controllable as any well-handled surgical wound.

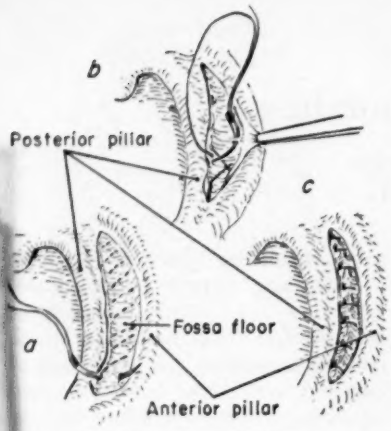
Suturing is usually, but not necessarily, begun at the lower pole. The sutures must enter where the tonsillar pillar joins the true floor of the fossa. The needle is started near the posterior pillar, passed under the true floor of the fossa, and brought out as near the junction of the anterior pillar and fossa as possible (Fig. *a*).

Interrupted sutures, figure-of-eight sutures, or a continuous suture may be used (Figs. *b* and *c*). The floor of the fossa should be tented up with a clamp to allow the most possible room between the floor of the fossa and the structures beneath.

The postoperative course is short because the area left to heal is greatly reduced.

Late bleeding does not occur, since the wound heals by primary intention and the bed of granula-

Closed fossa tonsillectomy. J.A.M.A. 149:348-350, 1952.



Suturing of tonsil fossa

tions from which hemorrhages arise does not form. Bleeding, however, may follow an accident in which the sutures are torn out. Hemorrhage from the adenoid bed, if adenoidectomy is also performed, is not prevented by the procedure.

Prophylactically, 300,000 units of procaine penicillin G is given on the day of and the day after surgery. The medication tends to result in a much cleaner throat and, by decreasing the number of Vincent's organisms, practically eliminates postoperative foul breath. Although patients are advised against the use of acetylsalicylic acid postoperatively, many take the drug in gum anyway; consequently, vitamin K is given routinely to combat the effects of the unknown quantity of the drug ingested.

Ease of swallowing tends to shorten the postoperative febrile period and the fever is slight because the tendency to dehydration is decreased. No blood is swallowed to cause nausea and vomiting. A child's throat is usually healed by the end of five days, and most adults can be back at their jobs after a week.

Decreased preoperative sedation, care in positioning on the operating table, and efficient suction during surgery help eliminate pulmonary complications. The voice is unaffected if the sutures are carefully placed and no undue tension is put on the posterior pillar.

If the tonsil is removed by careful blunt dissection by a competent surgeon, the number of remnants of tonsil tissue should be minimal.

¶ FALSE-POSITIVE REACTIONS FOR SYPHILIS may be the first indication of lupus erythematosus and appear as long as seven years before onset of clinical symptoms. Five such occurrences in 29 cases of lupus seen at the Cleveland Clinic, Cleveland, suggest to John R. Haserick, M.D., of Cleveland, and Lt. Roland Long, M.C., of Fort Jackson, S. C., that a predilection for the disease may exist and that patients with serologically positive reactions for syphilis and atypical rheumatoid arthritis, rheumatic fever, or glomerular nephritis may actually have latent systemic lupus erythematosus. The plasma L.E. test may be a valuable diagnostic procedure in such cases.

Ann. Int. Med. 37:559-565, 1952.

Surgical shock and cardiac or respiratory arrest require immediate treatment to ensure survival.

Immediate Postoperative Emergencies

JOE W. BAIRD, M.D.
University of Minnesota, Minneapolis

SURGICAL shock and failure of the cardiac or respiratory systems are the usual causes of immediate postoperative emergencies. These emergencies require adequate and skillful treatment. This is best administered in a well-staffed and well-equipped recovery room, states Joe W. Baird, M.D.

Shock may arise during the operation from surgical trauma, loss of blood, or general debility and must be counteracted promptly.

Cardiac emergencies often result from a period of hypotension. While anesthetized, the patient's respiratory exchange may become depressed so that carbon dioxide accumulates in the tissues and the blood pressure is elevated or kept at a false level. The patient, upon emerging from the anesthetic, is permitted to breathe room air. Thus excess carbon dioxide is eliminated, with subsequent fall in blood pressure.

This complication should be treated by use of the Trendelenburg position and administration of vasoconstrictors and blood or other intravenous fluids. Several hours may elapse before the pressure is fully stabilized.

Cardiac arrest, with or without ventricular fibrillation, calls for immediate and heroic treatment. The left chest should be opened at once and massage started. Massage should maintain the systolic blood pressure at 80 mm. of mercury. Intracardiac epinephrine, 0.5 cc. of 1:1,000 solution in 10 cc. of 1% procaine, will frequently reestablish a normal rate and rhythm. If ventricular fibrillation occurs, electric defibrillation may be necessary to restore normal rhythm. Oxygenation by way of an endotracheal tube must be maintained during the period of arrest.

One of the most common postoperative complications is atelectasis. The amount of lung tissue involved determines the severity. The patient has cyanosis, diminished breath sounds, and dullness to percussion over the atelectatic area. Roentgenograms should be made to determine the amount of lung affected.

If involvement is not excessive, vigorous pounding over the area often loosens the obstructing plug and allows aeration. A high oxygen atmosphere is advantageous. If cyanosis appears after oxygenation, the bronchoscope should be used to remove the obstructing material.

Aspiration of vomitus or other foreign material is a serious post-

Immediate postoperative emergencies. Minnesota Med. 35:738-739, 1952.

operative occurrence. Removal of the offending substance should be done as soon as possible. Proper positioning to promote drainage and bronchoscopic manipulation is essential.

Pulmonary edema is best treated by oxygen delivered under 3 to 5 mm. of pressure. Administration may be necessary for several hours.

Tension pneumothorax and hemothorax must be treated at once by aspiration of the air or blood.

Pulmonary emboli may occur in the immediate postoperative period. Cervical sympathetic blocks may be of value if done promptly.

Children may have laryngeal edema postoperatively if endotracheal catheterization has been done with too large a tube. The patients should be put in an oxygen tent in which a high, cold humidity is maintained. If not effective, tracheotomy must be performed.

The stomachs of small children may be so overdistended by anesthetic gases that the respiratory exchange becomes embarrassed. A stomach tube is the simplest means of eliminating this hazard.

Immediate postoperative hemorrhages produce signs of shock and must be controlled as soon as possible. Diagnostic measures, such as hemoglobin or hematocrit determination, are of little value. Physical signs must be depended upon.

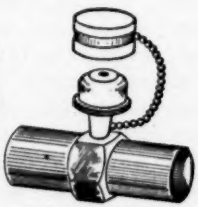
Hypoxia may occur and, if severe, causes cerebral edema. In such cases, concentrated human serum albumin, 100 cc. intravenously, should be given every four to six hours. Bilateral cervical sympathetic block increases blood flow and diminishes the edema.

Aid to General Anesthesia of Children

THOMAS H. SELDON, M.D.

A WHISTLE with silencer can be fitted into the exhalation side of a circle-absorption gas machine to amuse small patients during induction of anesthesia.

A sound is created by pressure of about 1 mm. of mercury, explains Thomas H. Seldon, M.D., of the Mayo Clinic, Rochester, Minn. The stronger the breath, the higher the note, but nothing is heard during inspiration.



To interest the child, the anesthetist shows how the whistle works. While oxygen is given alone, the youngster tries the whistle, often even holding the mask on his face. Other gases are added to the system. When consciousness is lost, the sound device is covered by a plastic cap or removed.

An aid to the induction of general anesthesia in young children. **Proc. Staff Meet., Mayo Clin. 27:371-372, 1952.**

When pregnancy is complicated by preeclampsia or eclampsia, the mortality rate of infants is high.

Specific Hypertension in Pregnancy

IRWIN WELLEN, M.D.
New York University, New York City

INFANT deaths are 4 times as frequent with severely hypertensive mothers as with parturients who do not have hypertension.

The incidence of eclampsia, premature separation, and prematurity is consistently higher among severely hypertensive patients. These factors contribute to infant mortality.

Specific hypertensive disease, or eclampsia and preeclampsia, occurred in approximately 3.7% of all deliveries at Bellevue Hospital for fifteen years, reports Irwin Wellen, M.D.

Infant loss was more than doubled in the deliveries complicated by hypertension. If the blood pressure was only moderately increased, the mortality was only slightly greater than the average for the total deliveries. However, with severe hypertension, the chance of survival was decreased to one-fourth.

Preeclampsia is considered severe when patients have 2 or more of the following symptoms: diastolic blood pressures above 110 mm. of mercury; 2 plus or more proteinuria; extensive generalized edema; edema, hemorrhage, or exudates of the eyegrounds; severe hyperreflexia; oliguria; subjective symptoms of threatening eclampsia.

Eclampsia occurs twice as frequently in mothers who receive no prenatal care as in clinic patients, and the infant loss is lower for preeclamptic patients who have adequate attention. The infant mortality is greatly lessened by hospital treatment of the preeclamptic patients.

Hospitalized preeclamptic mothers are treated symptomatically until spontaneous labor supervenes. Pregnancy is terminated if the condition progresses in spite of treatment; signs and symptoms of threatening eclampsia are noted; or severe retinopathy appears. Induction is then tried. If this fails, cesarean section is done only if the hypertensive state deteriorates or other obstetric problems arise.

The later in gestation the hypertension develops, the lower the infant loss.

In the management of preeclamptic patients, the following factors relating to the fetus are considered:

- Intrauterine deaths may be sudden.
- Some infants do not increase in size as expected with time.

Specific hypertensive disease of pregnancy: factors affecting infant mortality. Am. J. Obst. & Gynec. 64:271-280, 1952.

- An inherent normal variation of infant weights exists in different patients at like periods of gestation.
- Accurate estimation of fetal weight before delivery, especially of a premature infant, is often very difficult.

The incidence of eclampsia is much greater in the earlier weeks of gestation, occurring 4.5 times more frequently up to the thirty-fourth week than from that point to term. The attack is usually slighter if the patient is treated in a hospital.

The infant mortality increases precipitously when convulsions or coma or both supervene in preeclampsia. The infant loss is greater when the convulsions occur ante partum rather than post partum.

Premature separation of the placenta occurs almost 5 times as frequently with a severely hypertensive woman as with normal mothers.

The second stage of labor should be shortened to prevent trauma to the premature infant and progression of the hypertensive state. Forceps are employed twice as frequently.

The incidence of prematurity is 3 times as high in pregnancies complicated by specific hypertensive disease as in normotensive cases.

Endometrial Tuberculosis in Sterility

ALBERT SHARMAN, M.D.

UNSUSPECTED endometrial tuberculosis may be the cause of sterility in an apparently healthy young woman. The disease was found in over 5% of primary sterility cases subjected to curettage or biopsy in the wards or sterility clinic of the Royal Samaritan Hospital for Women, Glasgow.

The microscopic evidence, states Albert Sharman, M.D., is often elusive, hence the true incidence is probably even higher. Even when the lesions are seen by histologic examination, the tuberculous source is often not recognized by an observer with inadequate training in general pathology.

Most of the patients are seemingly healthy, and only a few have had manifestations suggesting tuberculous origin of the endometriosis—pleurisy, enlarged abdominal glands, or peritonitis and tuberculosis of the neck glands and spine.

Tubal insufflation reveals occlusion of the fallopian tubes in about 70% of cases. Endometrial tuberculosis is usually secondary to tubal infection and, for that reason, cure cannot be effected by curettage and the restoration of fertility is highly improbable.

Endometrial tuberculosis persists after curettage, bilateral salpingectomy, or bilateral salpingectomy with fundectomy.

Endometrial tuberculosis in sterility. Fertility & Sterility 3:144-166, 1952.

Stress-precipitated emotional disturbance is accompanied by hyperemic pelvic reaction in some women.

Psychosomatic Pelvic Congestion

CHARLES H. DUNCAN, M.D.
University of Louisville

HOWARD C. TAYLOR, JR., M.D.
Columbia University and Sloane Hospital for Women, New York City

LOWER abdominal pain and parametrial tenderness without apparent cause comprise a frequent and perplexing syndrome. Emotional disorder is an extremely common accompaniment, state Charles H. Duncan, M.D., and Howard C. Taylor, Jr., M.D. The condition is probably a bodily reaction to stressful life situations.

The usual symptom of pelvic congestion is pain in the suprapubic region or in either or both lower quadrants or the sacral area. The sensation is typically a dull, heavy ache, sometimes with a burning component, usually aggravated premenstrually or by coitus.

Physical signs may include any or all of the following: tenderness of the parametrium, cystic enlargement of one or both ovaries, diffuse enlargement of the uterine fundus, and congestion, hypertrophy, and hypersecretion of the cervix. Undue pain is elicited particularly when the uterosacral ligaments are stretched by palpation. Somatic symptoms are not limited to the reproductive tract.

The childhood background of women with pelvic congestion reveals a lack of maternal warmth and care and of the associated affection and security. A possible sequel of the want of good relationship with the mother is apparent in the subsequent performance and attitudes of the patient in childbearing and child rearing, functions partly dependent on ability to identify with a suitable mother figure.

Common to all women with pelvic congestion are emotional immaturity and strong dependent needs. Frequent periods of depression and thoughts of suicide may occur.

Marital adjustment is not satisfactory. Most of the women marry to escape an intolerable home situation. Despite the high incidence of expressed dissatisfaction with marriage, few are divorced or separated from their husbands. This apparent contradiction is explained by the patient being unable to tolerate the insecurity and dependence of separation.

Sexual behavior and attitudes reveal a meagerness of sexual drive and expression, probably indicative of strong repressive forces. Frigid-

A psychosomatic study of pelvic congestion. Am. J. Obst. & Gynec. 64:1-12, 1952.

ity is common among patients with the pelvic congestion syndrome and often begins at the time of a pregnancy.

Except for an abortion rate that is perhaps high, the patients' reproductive records are not unusual, but examination of the attitudes and reactions to the pregnancies is more revealing. A reasonable acceptance of the first pregnancy is usually achieved. Subsequent pregnancies, however, are not accepted and a negative attitude to further children predominates.

By use of a thermal conductance apparatus placed in the upper lateral vaginal wall, variations in blood flow can be recorded. Patients with the pelvic congestion syndrome examined in this fashion have increased blood flow when questioning arouses feelings of anxiety, depression, or resentment, with a return to normal when relaxed.

Control of Abnormal Uterine Bleeding

W. L. RUMBOLZ, M.D., C. F. MOON, M.D., AND J. C. NOVELLI

ADMINISTRATION of toluidine blue or protamine sulfate, or both, may effectively control abnormal uterine bleeding in patients with elevated protamine titrations and no demonstrable pelvic disease.

Before therapy is begun, complete hematologic studies must be done. Results of treatment vary directly with duration of symptoms, report W. L. Rumbolz, M.D., C. F. Moon, M.D., and J. C. Novelli of the University of Nebraska Hospital, Omaha. Patients who have been bleeding for protracted periods require longer treatment.

To determine protamine titrations, the following technic is employed:

Venous blood, 11 cc., is drawn with a large-gauge needle and placed in a standard graduated centrifuge tube containing 0.1 cc. of liquid heparin. The contents are thoroughly mixed by inverting the tube twelve to fifteen times. Then exactly 1 cc. is pipetted into each of 6 Wassermann tubes containing measured amounts of protamine sulfate, increasing from 0.1 mg. in the first tube to 0.2 mg. in the sixth tube. Each tube is briskly shaken eight to ten times and allowed to stand for one hour. The end point is determined by the least amount of protamine required for clot formation in one hour. Normal titration is established at 0.12 mg. of protamine sulfate.

After administration of protamine sulfate or toluidine blue, abnormal uterine bleeding was lessened or stopped for all but 4 of 28 patients with elevated titrations. Titration in all cases returned to normal. Dose schedules are: toluidine blue, 100 mg. orally twice daily for four days, or protamine sulfate, 50 mg. parenterally daily for four days. The toluidine blue may also be given intravenously.

Use of protamine sulfate and toluidine blue for abnormal uterine bleeding. Am. J. Obst. & Gynec. 63:1029-1037, 1952.

Stout wiring or arch bars with elastic traction are adequate for two-thirds of all mandibular fractures.

Fractures of the Mandible

MILTON T. EDGERTON, M.D.
Johns Hopkins University, Baltimore

ELMORE HILL, D.M.D.
Birmingham, Ala.

RECENT improvements in treatment of fractures of the mandible are largely the results of the use of antibiotics, better methods of fixation, and careful application of the principles of surgical drainage. The use of open reduction and Kirschner wire fixation is increasing and is often more satisfactory than circumferential wiring, head caps, or elaborate dental splints.

A method of classification is employed by Milton T. Edgerton, M.D., and Elmore Hill, D.M.D., in which the presence or absence of teeth in the fragments of the mandible is the determining consideration. In single fractures, if adequate teeth remain in both fragments, the fracture is designated a class I fracture. If teeth remain in only 1 of the 2 fragments, the fracture is class II, and when both fragments are edentulous, the fracture is class III. The classification is further subdivided to indicate location of the fracture line.

Stout wiring or intermaxillary wiring with the aid of arch bars and elastic traction is employed whenever dentition is adequate, particularly in class I fractures and undisplaced class II fractures of the angle, ramus, or condyle. Approximately two-thirds of all mandibular fractures are treated successfully by this means. The remaining third present special problems.

Most fractures of the *symphysis* are class I; however, immobilization is difficult because of the strong pull of the mylohyoid and digastric muscles. Posteroanterior radiograms supplemented with periapical films are used to verify position of teeth and fracture. Infection is likely if teeth are retained in or even very near the fracture line.

Therefore, all teeth in the line of an anterior fracture of the symphysis, or that have been loosened, are extracted. If adequate teeth remain, arch bars with elastic traction are used for reduction for several days. In case of displacement, the fracture is first reduced manually. A crib is added if the arch tends to collapse transversely.

If adequate stabilization cannot be obtained by an arch bar alone because of insufficient teeth, or if traction fails to reduce the fracture, simple and effective fixation may be obtained by 2 crossed Kirschner

Fractures of the mandible. Surgery 31:933-950, 1952.

wires. Anteriorly the mandible is thick and the wires are inserted with little danger to vital structures. The fracture is reduced manually with the aid of local anesthesia at the time of insertion.

Penicillin is routinely given for seventy-two hours. Immobilization is ten to fourteen days longer than for other single fractures of the mandible.

Fractures through the *mental foramen* are frequent and mostly of class I. The short posterior fragment is usually elevated and the chin often deviates to the side of the fracture. Treatment is usually done with arch bars and intermaxillary elastics or Stout wiring. Arch bars are ordinarily preferable because Stout wiring requires 3 adjacent teeth and may damage the periodontal membrane. Teeth are either extracted at the fracture line or external drainage of the fracture site is done.

In class II fractures of the mental foramen with a long edentulous posterior fragment, the combination of an arch bar with an extension acrylic saddle splint that fits over and holds down the toothless fragment is useful. Class III fractures are best treated by open reduction.

Fractures of the *molar region* are usually treated much like those of the mental foramen. Arch bars are preferred for class I fractures; open reduction or external skeletal fixation is used for class III fractures. Kirschner wires applied directly across the fracture line are less satisfactory with posterior than with anterior injuries.

Fractures at the *angle*, which comprise one-third of all single fractures, usually require individualization of therapy. Most multiple fractures contain one angle fracture.

Fresh fractures—those seen within the first forty-eight hours—posterior to all the teeth and without appreciable displacement, or in which the fracture line involves only the crown of the last remaining molar, may be treated by Stout wiring with intermaxillary elastics.

If displacement is significant, open reduction is done through a tiny cervical incision and the bone is reduced by a single steel wire applied obliquely across the fracture line. The incision is closed without drainage.

Fresh fractures involving a root of a molar, but without displacement of the line, are treated by removal of the tooth, if possible without displacing the fracture line. If periapical disease is present or even questionable pulp involvement, the tooth is always removed and a drain inserted through an external incision.

If the last molar is involved and the fracture line displaced, the tooth is removed and external open reduction done with transosseus wiring. No drains are used. Occasionally, manual reduction is possible and intermaxillary wiring suffices.

When angle fractures are not seen until several days have elapsed, arch bars or Stout wiring is utilized if the fracture line is posterior to the last tooth and no displacement is present. Otherwise open

reduction may be employed, since such fractures are rarely compounded. If the fracture goes through the root of a molar tooth, the tooth is removed and external drainage instigated.

Class III angle fractures are best treated by open reduction without drainage, supplemented by an external Barton bandage and liquid diet.

Ramus—Four weeks of intermaxillary wiring usually suffice for fractures of the ramus. Trismus, the commonest complication, is treated by wedges of rubber cork between the teeth. Muscle spasm and pain may be relieved by deep block of the mandibular nerve.

Condyle—Immobilization is done for three weeks in a case of nondisplaced condylar fracture. In over 90% of displacement cases, simple intermaxillary wiring with, occasionally, a fulcrum splint, obtains satisfactory results.

Complications—The complications of fracture of the mandible are: infection, nonunion, malunion, and salivary fistula, all of which are decreased in incidence by use of the treatment outlined.

Sequelae of Bulbar Poliomyelitis

HANS U. ZELLWEGER, M.D., AND E. GABATHULER, M.D.

ALTHOUGH patients with poliomyelitis affecting the cranial nerves are more apt to die during the early period of the disease than are those whose spines alone are affected, prognosis for the survivors is much better with the bulbar involvement.

In comparing the early and late prognoses associated with these two sites of poliomyelitis infection, Hans U. Zellweger, M.D., of the American University of Beirut, Lebanon, and E. Gabathuler, M.D., of the University Children's Clinic, Zurich, Switzerland, find that from the forty-fifth to the ninetieth day of illness, among the spinal cases, 26.8% are cured, 63.2% are improved, 4.4% are not improved, and 5.6% have died. Of the bulbar cases, 45.7% are cured, 26.5% are improved, 6.6% are not improved, and 21.2% have died.

Two years or more after onset of illness, patients who had spinal infections have residual paralysis in 40% of cases. Of these, 25% need braces and surgery, or both. Among the bulbar patients, the majority of the palsies disappear and those that remain have no crippling effects. Among the individual cranial nerves affected, involvement of the tenth, third, and twelfth carries the greatest early threat to life, but correspondingly, the greatest promise of cure should the patient survive the attack.

Prognosis of palsies from cranial nerve involvement in poliomyelitis. J. Pediat. 10:127-130, 1952.

Some infants thrive on six-hour feedings and the early introduction of semisolid foods.

Six-Hour Feeding Schedule

WALTER W. SACKETT, JR., M.D., AND BEN J. SHEPPARD, M.D.
University of Miami, Coral Gables, Fla.

AN INITIAL six-hour feeding interval from birth, with early introduction of foods, seems entirely satisfactory when analyzed on the basis of weight gain and hemoglobin levels. This schedule also permits a good adjustment between baby and mother and allows the mother more time for other family obligations.

Initial loss of weight does not seem as great as with other feeding routines, in the experience of Walter W. Sackett, Jr., M.D., and Ben J. Sheppard, M.D., who have observed that an average sized infant's initial loss of 4 to 6 oz. may be made up by the time the baby leaves the hospital on the fourth or fifth day if fed every six hours. For the next three to four weeks the weight gain seems to lag behind that to be expected, but subsequently the increase quickly replaces this early deficit.

The babies on the six-hour schedule have the same pattern of blood levels as do those on the conventional four-hour schedule. Until the fourth week of life, the babies maintain a hemoglobin concentration of approximately 100% (17 gm.).

This level gradually decreases to a 55 to 65% level at 5 to 6 months and then rises slowly to a 65 to 75% level, the average for children and infants in the subtropical regions in which the study was made. Normal babies show the same trends with and without hematinic therapy.

The feeding schedule is arranged as follows:

Feedings are at 6 A.M., 12 noon, 6 P.M., and 12 midnight, with water between feedings.

3 to 4 days of age—Cereal at 6 A.M. and 6 P.M.

10 days of age—Strained vegetables at noon; peas, beans, and carrots being suggested as starters.

14 days of age—Concentrated cod-liver oil, 2 drops a day initially; increase 1 drop a month up to 5 drops daily.

17 days of age—Strained fruit at 6 P.M.; applesauce, peaches, and pears being suggested as starters. Cereal may be decreased.

3 weeks—Add orange juice and sterile water in equal parts, up to 2 oz. of each, at 6 A.M.

4 weeks—Add strained meats

5 weeks—Add custards

6 weeks—Add soups

7 weeks—Add mashed banana

8 weeks—Add hard-boiled egg yolk

When asked to compare the

Further observations on a new concept of baby feeding. J. Florida M. A. 39:21-24, 1952.

health of the baby receiving six-hour feedings with that of previous babies receiving four-hour feedings, 94% of the mothers reported that the present baby took new foods more readily; 81% that fewer bowel upsets had occurred; 87% that the baby seemed more contented; and 78% that the child had fewer allergic manifestations.

The decreased food allergies may result from the early and pronounced rotation of foods in the six-hour schedule instead of the usual feeding of a single food substance for a long period of time.

Tuberculosis of Cervical Lymph Nodes

ORVAR SWENSON, M.D., AND WILFRED T. SMALL, M.D.

CERVICAL tuberculous adenitis, a once common but now rare children's disease, should be treated by surgical excision.

Streptomycin given postoperatively for two weeks in daily doses of 1 gm. may prevent complications. The drug alone proved unsatisfactory when given in 3 of 11 cases, report Orvar Swenson, M.D., and Wilfred T. Small, M.D., of the Boston Floating Hospital and Tufts College, Boston.

Early in the course of the disease glands may be enlarged and matted together but not inflamed. Tuberculosis is diagnosed if the condition persists for six weeks or more and an intracutaneous tuberculin reaction is positive with a dilution of 1:100 or less. Further evidence is known contact with infection or drinking of raw milk.

In most cases, tonsillectomy and adenoidectomy should be done at once. Neck glands are excised two weeks later if still enlarged. When skin is thin and red over the glands and spontaneous drainage is imminent, tonsillectomy is deferred until after removal of nodes.

If the patient had tonsillectomy and adenectomy before the onset of infection, other portals of entry should be sought before operation.

A transverse incision is made in a skin fold. If a sinus has formed or the skin is thin and red, an elliptic opening is made, and involved tissue is removed with the glands.

Care is taken to avoid the inframandibular branch of the facial nerve, the spinal accessory nerve, and the hypoglossal nerve. Hemostasis is secured by fine catgut ligatures, and the wound is closed with interrupted silk sutures to the skin without drainage. Postoperatively, collections of fluid are aspirated.

Tuberculosis of cervical lymph nodes. Pediatrics 10:131-137, 1952.

Neonatal ferrotherapy increases hemoglobin and enhances growth of the anemic baby born before term.

Anemia of the Premature Infant

MARY ELLEN REEDY, M.D., AND STEVEN O. SCHWARTZ, M.D.
Cook County Hospital, Chicago

EDWARD B. PLATTNER, M.D.
Colorado University, Denver

ADMINISTRATION of iron during the first three months of life favorably influences the course of anemia in the premature infant. Hemoglobin values increase and weight gain is accelerated.

When iron medication is continued, hemoglobin levels reach those of the full-term infants by the seventh month and then rise steadily.

At Cook County Hospital, 79 premature infants weighing 6 lb. or less were observed for eighteen months; alternate infants received iron therapy from the seventh day of life. A commercial preparation was used containing 2 gm. of liver concentrate, 10.8 mg. of copper sulfate, 0.39 gm. of iron and ammonium citrate, and enough palatable elixir to make 1 oz. The daily dose was 15 drops during the hospital period and 1 tsp. when the infant was taken home at the weight of 2,126 gm.

In the newborn period, the babies received breast milk. Later, most were given Enzylac milk with Dextri-Maltose added, an intake of 120 calories per kilogram being slowly attained. The larger infants who were fed every four hours were given 1 oz. of weak tea between feedings.

Routinely, 50 mg. of ascorbic acid and 10 drops of oleum percomorphum were given daily. Infants weighing less than 1,500 gm. at birth were given oxygen until weight reached 1,500 gm.

Results of treatment as reflected in red blood cell count, hemoglobin values, and weight gain are reported as follows by Mary Ellen Reedy, M.D., Steven O. Schwartz, M.D., and Edward B. Plattner, M.D:

Blood Counts

Infants in both the treated and untreated groups attain red blood cell levels above 4 million at some point in the fifth to seventh month of life. A difference of 0.76 million red blood cells is found in the fifth month between the treated and untreated infants with birth weights from 2,000 to 2,250 gm.

Hemoglobin Values

Hemoglobin levels of the treated 1,000- to 1,500-gm. birth weight group tend to increase, beginning in the tenth week, and rise rapidly during the twelfth week. By the

Anemia of the premature infant. J. Pediat. 41:25-39, 1952.

seventh month hemoglobin levels equal those of normal-term infants and continue to rise.

In the fifth month the hemoglobin levels of treated infants are nearly twice those of babies not receiving iron. With infants heavier at birth, the spread between hemoglobin levels of the treated and untreated groups is slightly less. Hemoglobin levels continue low as late as the fifteenth month for infants not given iron.

Babies treated only for the first three months have higher hemoglobin levels than the untreated infants after the third month. Hemoglobin values begin to drop after the sixth month, but never to the level of the untreated group.

Weight Gain

The treated 1,000- to 1,500-gm. birth weight baby weighs 3 lb., 1¾ oz. more at 1 year than the untreated infant does. The difference for 1,500- to 2,000-gm. birth weight babies is 1 lb., 12 oz., and for the 2,000- to 2,250-gm. group, 3 lb., 1 oz. The greater gain of the 1,000- to 1,500-gm. birth weight babies is unexplained.

Tetany and Dietary Phosphorus

LYTT I. GARDNER, M.D.

Cow's milk, particularly whey, has a tetanogenic action in young rachitic infants. The high phosphate content is a major factor.

Lytt I. Gardner, M.D., of the State University of New York, Syracuse, finds a correlation between a high phosphate intake and both neonatal tetany and parathyroid hyperplasia. When kidney function is limited, excess dietary phosphates may profoundly affect parathyroids and kidneys. The parathyroid hyperplasia is apparently compensatory, the result of hyperphosphatemia, but is inadequate to produce a normal serum inorganic phosphorus content because kidney function is immature.

Determination of serum inorganic phosphorus is important in neonatal distress. Besides the usual signs of twitching and hyperreflexia, tetany can occur as generalized convulsions, apnea, cyanosis, laryngeal spasm, and facial edema.

Neonatal tetany with hyperphosphatemia is treated with reduction or elimination of dietary phosphate with or without 2 to 3 gm. of calcium chloride or lactate every twenty-four hours.

Excess dietary phosphate is not the exclusive cause of neonatal tetany. Maternal hyperparathyroidism should be suspected in tetany of breast-fed infants. Serum phosphorus is increased by maternal estrogens and decreased by infection.

Tetany and parathyroid hyperplasia in the newborn infant: influence of dietary phosphate load. Pediatrics 9:534-543, 1952.

For successful orchipexy, cord structures should be completely freed from overlying peritoneum.

Surgery in Cryptorchidism

JOSEPH H. KIEFER, M.D.
University of Illinois, Chicago

SURGICAL correction is the accepted treatment for the undescended testis when endocrine therapy is unsuccessful.

Failure to mature, the possibility of malignant degeneration, and appearance are all reasons for bringing down the cryptorchid testis, states Joseph H. Kiefer, M.D.

If prepubertal therapy proves the testis can descend into the scrotum with endocrine stimulation alone, and no other reason for surgery exists, the child is allowed to wait until puberty when the normal endocrine stimulus can be expected to effect descent. If endocrine injections are unavailing, operation is done before puberty.

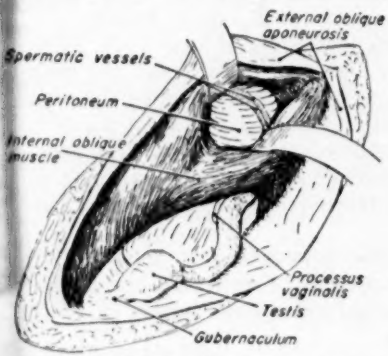


Fig. 1. Muscle-splitting opening

The ordinary inguinal incision is employed, the inguinal canal is opened, and the testis, if there, is raised. The gubernacular structures, if present, are dissected up to the points of attachment and divided. Commonly, the epididymis is separated from the testis except for the small area of the efferent ducts. When the testis is high in the inguinal canal or abdomen, the vas and epididymis may extend well down into the inguinal canal and then loop back to join the testis.

If the testis is not in the canal, abdominal pressure often helps to extrude the organ through the internal ring. If the testis is still not located, the processus vaginalis, if any, is opened and a finger inserted into the peritoneal cavity. The testis may be felt in any direction, but commonly below or lateral to the internal ring. For the intraabdominal testis, an approach is made through a separate muscle-splitting incision higher up.

Of great importance is the complete freeing of the cord structures from the overlying peritoneum of the processus vaginalis. The peritoneum is divided just proximal to the testis and removed completely. Injection of liquid by needle just under the tightly adherent perito-

Surgical treatment of cryptorchidism. J. Urol. 68:358-366, 1952.

neum is a useful maneuver to develop the proper cleavage plane. Failure to sever completely all connective tissue strands joining the peritoneum and the cord elements or to remove all remnants of the spermatic fascia as well as the cremaster muscle may prevent full descent or cause later retraction.

For adhesions high in the abdomen, the skin opening is extended, and a muscle-splitting incision is made to reach the extraperitoneal space. The spermatic vessels are identified, exposed, and completely freed down to the inguinal ring (Fig. 1). If the vas is a little short, mere rotation of the testis usually allows sufficient length.

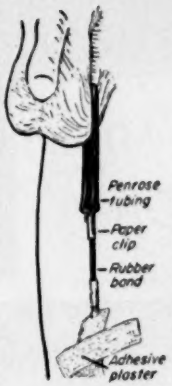


Figure 2

The Ferguson type of inguinal canal repair is employed because this brings the cord out through all layers at the site of the external ring.

After the testis has been brought down into the scrotum, fixation is necessary. In a few cases, continued slight traction is desirable to lengthen the spermatic cord structures. The gubernacular structures are pulled down through a scrotal incision and fastened to the fascia of the thigh; the scrotum is sutured to the skin.

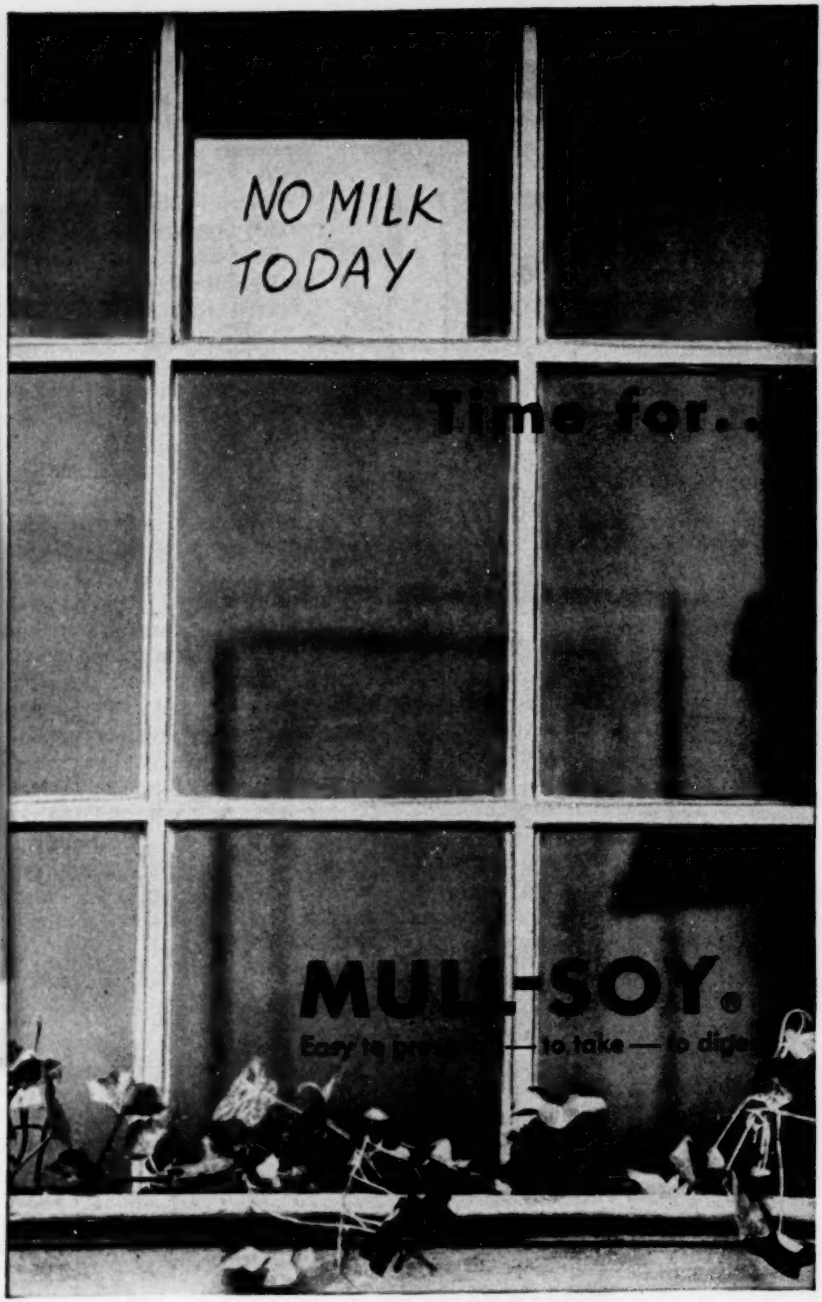
After healing, traction is easily applied with a small rubber tissue drain wrapped around the isthmus and connected to a rubber band which in turn is stretched down to an adhesive plaster anchor on the inner side of the thigh just about the knee (Fig. 2). Tension is easily adjusted either by changing the position of the anchor or by adding or subtracting the small paper clips used as connecting links.

Tension is applied slightly at first and gradually increased, to prevent discomfort and restriction. Skin must be kept clean and dry. The process is slow and no apparent effect is noted for several weeks.

Orchiectomy is only rarely needed. A testis which cannot at least be brought to the subcutaneous inguinal space should be removed. Every effort should be made to preserve even a hypoplastic testis when the testis on the other side is of dubious value.

¶ CANCER OF THE PROSTATE may be inhibited by radioactive gold in colloidal solution infiltrated under direct vision through a suprapubic incision. Small intensive doses of about 1 millicurie per gram of tissue are injected by a special instrument, both retropubically and transvesically. R. H. Flocks, M.D., and associates of the State University of Iowa, Iowa City, have treated 56 patients by this technic with encouraging results. Radiation injury of adjacent regions appears much less than usual.

J. Urol. 68:510-522, 1952.


NO MILK
TODAY
Time for..
MUL-SOY.
to take — to dige

MULL-SOY

Proven food for infants allergic to milk

Case history: 140 infants allergic to milk*

Symptoms: vomiting, eczema, colic, diarrhea

Results: almost immediate relief by eliminating milk and switching to Mull-Soy

Make Mull-Soy *your first choice* when establishing a hypoallergenic diet. Here is high content of unsaturated fatty acids, also essential nutritional requirements of protein, fat, carbohydrate and minerals. Mull-Soy contains no animal protein.

*Clein, Norman W.: Cow's Milk Allergy In Infants, Ann. Allergy 9:195 –1951

a liquid, homogenized, vacuum-packed food
for all patients allergic to milk

The **Borden** Company, Prescription Products Division
350 Madison Ave., New York 17

Treatment of the primary condition is advised for urologic disease resulting from bowel inflammation.

Bowel Inflammation and Urologic Disease

HARRISON C. HARLIN, M.D., AND FRANK C. HAMM, M.D.
Veterans Administration and Brooklyn hospitals, Brooklyn

URINARY tract complications resulting from diseases of the bowel should be managed by evacuation of pus and treatment of the primary condition.

The urologic disease usually disappears in all but the most chronic cases after bowel surgery, declare Harrison C. Harlin, M.D., and Frank C. Hamm, M.D., since the major pathologic process is not intrinsic in the urinary tract.

Diverticulitis of the colon—The most common urologic involvement resulting from perforated diverticulitis of the colon is vesicocolic fistula, which appears in about 23% of cases. Attachment of the diverticulum to the outer vesical wall may cause pain, frequency, and tenesmus. Acute cystitis occurs after perforation. Cystoscopic examination may disclose a fistulous opening into the bladder, though actual visualization is accomplished in less than 40% of cases.

The safest therapy is preliminary colostomy followed in sixty to ninety days by resection of the sigmoid and closure of the vesical opening.

Acute urinary retention and lower ureteral obstruction may also occur with diverticulitis. A perforating infected diverticulum may produce inflammatory changes in the retroperitoneum, causing actual displacement of the bladder neck, with resulting inability to void; in lower ureteral obstruction, the ureter may be enclosed in and infiltrated by the inflammatory products.

Extraperitoneal appendicitis—A perforation of a so-called extraperitoneal appendix may cause suppuration in the retroperitoneal tissues. The condition is differentiated from suppuration originating in the kidney by [1] gas revealed on roentgenograms in the region of the abscess cavity, [2] the finding of coliform organisms in the cultured pus, [3] formation of the greatest amount of the suppuration in the region of the true pelvis, and [4] tendency to recurrences.

Symptoms include chills, fever, pain in the right lower or right upper quadrant or flank, and tenderness with or without a mass in the same areas. Urine may contain blood or pus, and urograms may reveal displacement of the ureter in the region of the appendix.

Prompt surgical evacuation is the prime consideration. An ex-

(Continued on page 122)

Urologic disease resulting from nonspecific inflammatory conditions of the bowel. J. Urol. 68:383-392, 1952.

antispasmin is the most potent of a large series of spasmolytic substances synthesized by Rosenmund and coworkers.[3] Outstandingly effective in the control of spasm associated with peptic ulcers, gastritis, colitis, cardiospasm, dysmenorrhea, and other conditions involving smooth muscle spasm.[2,4,5]

dosage usual adult dose, 1 to 3 tablets daily, taken after meals. In cardiospasm, administer *before* meals.

supplied white, scored tablets, containing 120 mg. *Antispasmin* Citrate, bottles of 100, 500, 1,000. Also available: tablets containing 120 mg. Antispasmin Citrate and 15 mg. Phenobarbital, bottles of 100, 500, 1,000.

1. Kulz, F. and Rosenmund, K.W., Klin. Wchnschr., *17*:344 (1938).
2. Weiss, S., Rev. Gastroenterol., *12*:436 (1945).
3. Kulz, F., Rosenmund, K.W., *et al.*, Ber. deut. chem. Gesellschaft, 72B; 19; 2161 (1939).
4. Lux, E., Klin. Wchnschr., *17*:346 (1938).
5. Ohr, A., Therapie d. Gegenwart, *80*:29 (1939).

Safer—yet 2 to 3 times more powerful than papaverine[1,2]

superior spasmolytic

Antispasmin

(*N-ethyl-3,3' diphenyldipropylamine, Raymer*)

To relax smooth muscle spasm

RAYMER

PHARMACAL COMPANY
Pharmaceutical Manufacturers
Jasper and Willard Streets, Philadelphia 34, Pa.

NOW a really effective treatment

for Seborrheic Dermatitis of the scalp

. . . keeps scalp free of scales for one to four weeks

In clinical trials with 400 patients[1,2,3] *Selsun* Sulfide Suspension provided *complete control* in 81 to 87 percent of all cases of seborrheic dermatitis . . . and in 92 to 95 percent of cases of mild seborrhea (common dandruff). *Selsun* frequently proved successful after other recognized treatments had failed to produce satisfactory results. These studies showed that *Selsun* stops itching and burning symptoms after only two or three applications . . . and that scaling is controlled for one to four weeks.

Patients find *Selsun* simple and pleasant to use . . . it is applied while washing the hair, then rinsed out. As a result, the scalp is left clean and odorless, and there is no oily residue to come off on clothing or linens. Toxicity studies[1,2] show there are no harmful effects when used externally as recommended.

Designed strictly for the medical profession, *Selsun* is available *only on a physician's prescription.* It is supplied by pharmacies everywhere in 4-fluidounce bottles with tear-off labels. Abbott

WRITE FOR LITERATURE on this outstanding new product.
Address: Dept. 022, ABBOTT LABORATORIES, North Chicago, Illinois.

References:

1. Slinger, W. N., and Hubbard, D. M. (1951), Arch. Dermat. & Syph., 64:41, July.
2. Stepyan, A. H. (1952), Ibid., 65:228, February.
3. Ruch, D. M. (1951), Communication to Abbott Laboratories.

PRESCRIBE **SELSUN**
TRADE MARK

SULFIDE *suspension*
(SELENIUM SULFIDE, ABBOTT)

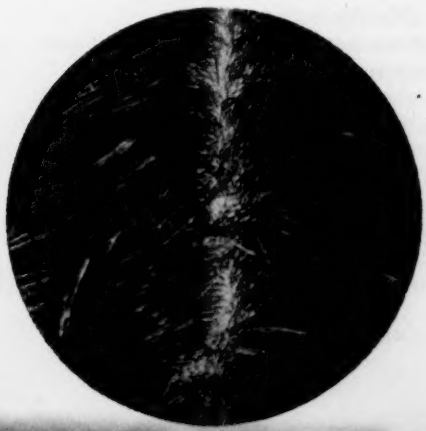
A

1 *Before treatment with Selsun*

CLINICAL PHOTOGRAPHS showing effect of SELSUN on pityriasis sicca

2 *After two weeks of treatment*

Patient applied SELSUN twice a week for two weeks, once a week for next four weeks



3 *After six weeks of treatment*

ploratory operation should be performed.

Regional enteritis—Any atypical ureteral obstruction, narrowing, filling defect, or displacement with or without hydroureter or hydronephrosis; recurrent retroperitoneal abscess; or vesicocolic fistula may result from regional enteritis. The portion of the ureter most frequently involved is approximately that area marked by the crossing of the iliac vessels on the right side. Involvement is at a higher level when a segment of jejunum perforates the posterior peritoneum.

The symptoms, pain in the flank, colic with radiation along the course of the ureter, chills, and fever, are often considered gastrointestinal in origin. The diseased portion of bowel may perforate the urinary bladder or the retroperitoneum, causing abscesses or urinary obstructions. Urograms will reveal displacement, narrowing, or a constant filling defect of the ureter adjacent to the perforated bowel.

Aside from acute emergencies arising from urinary obstruction or actual abscess formation, treatment is directed toward the regional enteritis. In most cases, therapy consists of a short-circuiting operation or primary resection of the bowel. Retroperitoneal abscess should be evacuated when diagnosed and the underlying cause treated later.

Peyronie's Disease and Dupuytren's Contracture

JOHN I. WALLER, M.D. AND WILLIAM C. DREESE, M.D.

ALPHA-TOCOPHEROL, vitamin E, may be beneficial in treatment for both Peyronie's disease and Dupuytren's contracture. The two conditions are commonly associated.

Many patients seen on a surgical service with Dupuytren's contracture are frank to admit that the penis curves on erection, although the information would never be elicited without specific inquiry. Likewise, patients who seek medical advice because of Peyronie's disease often have Dupuytren's contracture, although not concerned about the hand difficulty.

With either condition, the patient usually waits until the disease is far advanced before consulting a physician.

When 10 patients with the two diseases associated were each given 100 mg. of alpha-tocopherol three times daily for six to twelve months, 4 improved greatly and 4 moderately. The other 2 had slight benefit, report John I. Waller, M.D., and William C. Dreese, M.D., of the Hertzler Clinic, Halstead, Kan.

Surgical treatment is usually quite satisfactory for Dupuytren's contracture, but not for Peyronie's disease.

Peyronie's disease associated with Dupuytren's contracture. J. Urol. 68:623-625, 1952.

FULL SPEED AHEAD in TISSUE REPAIR

DESITIN® OINTMENT

the pioneer external cod liver oil therapy

in wounds (especially slow healing)
ulcers (decubitus, varicose, diabetic)
burns, perianal dermatitis
non-specific dermatoses

DESITIN Ointment *proves in everyday practice its ability to ease pain, renew vitality of sluggish cells, and stimulate smooth tissue repair in lacerated, denuded, chafed, irritated, ulcerated tissues—in conditions often resistant to other therapy.*[1-3]

Protective, soothing, healing, Desitin Ointment is a non-irritating blend of high grade, crude Norwegian cod liver oil (with its unsaturated fatty acids and high potency vitamins A and D in proper ratio for maximum efficacy), zinc oxide, talcum, petrolatum, and lanolin. Desitin Ointment does not liquefy at body temperature and is not decomposed or washed away by secretions, exudate, urine or excrements. Dressings easily applied and painlessly removed.

Tubes of 1 oz., 2 oz., 4 oz., and 1 lb. jars.

write for **samples** *and literature*

DESITIN CHEMICAL COMPANY

70 Ship Street • Providence 2, R. I.

1. Behrman, H. T., Combes, F. C., Bobroff, A., Leviticus, R.: Ind. Med. & Surg. 18:512, 1949.
2. Turell, R.: New York St. J. M. 50:2282, 1950.
3. Heimer, C. B., Grayzel, H. G., and Kramer, B.: Archives Pediat. 68:382, 1951.

Pain from altered scapulothoracic relationship is relieved by trigger point injection and correction of posture.

Management of Scapulocostal Syndrome

ALLEN S. RUSSEK, M.D.
New York University, New York City

FULLY half the cases of shoulder pain result from poor posture displacing the scapula on the ribs. Symptoms may involve the neck, arm, or chest wall.

Allen S. Russek, M.D., differentiates 3 forms of the scapulocostal syndrome: *primary*, due to habitual slouch or nervous tension; *secondary*, following acute immobilizing lesions of shoulder or arm; and *static*, seen among amputees, hemiplegics, and other disabled persons.

Trigger points are usually found under the upper angle of the shoulder blade or root of the scapular spine. Pressure on sensitive areas reproduces the typical pain, and one or more injections of a local anesthetic give relief. Posture is corrected by training or supports.

The *primary* syndrome develops with occupational fatigue between ages of 35 and 60 years. Postural habits of some occupations are particularly likely to cause the condition. Thus, physicians, typists, chauffeurs, machine operators, or garment workers may allow shoulders to droop and scapulae to slide laterally, causing pain that grows worse during the day.

Symptoms felt most keenly on arising in the morning may result from too high pillows in bed. Involvement of the neck and severe headache are often related to nervous strain without postural fault.

One-sided pain is first felt at the top or back of the shoulder girdle and may radiate into the neck and occiput, upper arm, around the chest to the front wall, or down the medial aspect of the forearm into hand and fingers.

Stimuli probably originate in highly sensitive tissues under the scapula or in spastic muscles of suspension. Symptoms often persist for years; in some cases, radiation zones become established.

When examined, the arm moves freely at the shoulder, but when both arms are raised above the head, scapular movement may be limited on the involved side.

The patient places the hand of the painful side on the opposite shoulder, and the physician locates the tender point, generally by passing the thumb down the vertebral border of the shoulder blade, though sensitive foci may develop elsewhere. For diagnostic testing, 4 to 10 cc. of 1% procaine is injected or ethyl chloride sprayed over tender and trigger areas; local and reflex discomfort should be diminished.

For therapy, 2 to 5 cc. of 2%

Diagnosis and treatment of scapulocostal syndrome. J. A. M. A. 150:25-27, 1952.

Intracaine in oil produces anesthesia lasting for weeks, and 3 or 4 doses are usually sufficient. Postural exercises may be required, and for extreme lumbar lordosis and round shoulders a corrective garment is worn.

The *secondary* type of syndrome occurs in younger people than does the primary type of involvement and develops faster. Subdeltoid bursitis, dislocation of the shoulder, fracture, abscess, or arthritis may be responsible, especially with prolonged bed rest.

Motion of humerus and scapula is limited, and diagnosis is impeded by general tenderness that conceals the foci. However, symptoms are intensified by 1 cc. of distilled water injected into crucial areas, or even by the insertion of the needle.

A *static* syndrome is common with fixed deformities such as shortening of the leg by high cord lesions. The basic disorder may be an injury, degenerative disease, scoliosis, poliomyelitis, or other condition.

The relation between original disability and onset of the syndrome must be defined. Resting positions and use of crutches are investigated. Passive movements should change symptoms very little.

Procaine injection may be helpful in diagnosis. Trigger points are less obvious with flaccid than spastic paralysis but are located readily in amputees.

Mechanical devices are applied to restore balance of the shoulder girdle. Heat does no good; massage is harmful.

Surgical Treatment of Paronychia

R. BRODOWSKY, M.D.

Good results may be obtained in operating for paronychia if a penicillin-procaine mixture is used for annular anesthesia. The edema and pain quickly regress and healing is hastened.

R. Brodowsky, M.D., of Paris employs 100,000 units of crystalline penicillin G dissolved in 4 to 5 cc. of 1% procaine. The solution produces analgesia and prevents spread of infection.

Infiltration is performed at the desired level. To obtain a bloodless field, a tourniquet may be applied. The use of adrenalin should be very carefully considered because of the danger of necrosis.

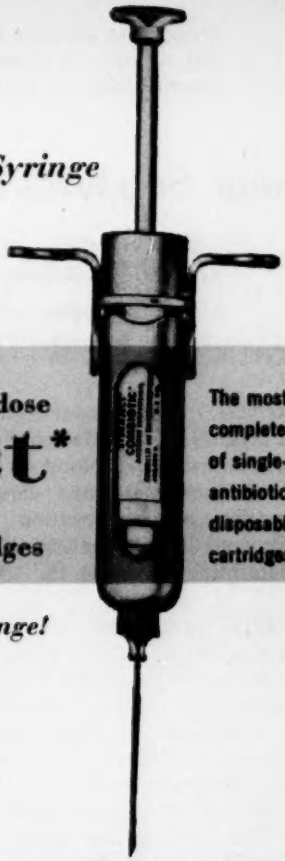
Incision is made in the usual manner, the focus is cleaned by curettage, and the cavity filled with a gauze drain, saturated with a solution of buffered penicillin.

Complications were not observed in any of 32 cases in which the procedure was used. Phlegmon and necrosis occurred in 3 instances among 58 patients treated by usual procedures.

L'adjonction de pénicilline á la procaine dans l'anesthésie en bague pour le traitement des panaris. Presse méd. 60:1044, 1952.

NEW *Pfizer Steraject Syringe*

holds 2 cartridge sizes



sterile, single-dose

Steraject*

disposable cartridges

The most complete line of single-dose antibiotic disposable cartridges

2 cartridge sizes for only 1 syringe!

NEW

Steraject Penicillin G Procaine Crystalline In Aqueous Suspension (300,000 units)

Steraject Penicillin G Procaine Crystalline In Aqueous Suspension (1,000,000 units)

Steraject Combiotic* Aqueous Suspension (400,000 units Penicillin G Procaine Crystalline, 0.5 Gm. Dihydrostreptomycin)

Steraject Dihydrostreptomycin Sulfate Solution (1 gram)

Steraject Streptomycin Sulfate Solution (1 gram)

two cartridge sizes permit *full standard* antibiotic dosage

cartridges individually labeled

ready for immediate use

no reconstitution

for full details, ask your Pfizer Professional Service Representative

Steraject Cartridges:
each one supplied with sterile needle, foil-wrapped

introduced by **Pfizer**

world's largest producer of antibiotics

* TRADEMARK, CHAS. PFIZER & CO., INC.

ANTIBIOTIC DIVISION, CHAS. PFIZER & CO., INC., BROOKLYN 6, N.Y.

Progressive increase in number and severity of symptoms after head injury suggests chronic subdural hematoma.

Chronic Subdural Hematomas

JAMES L. POPPEN, M.D.
Lahey Clinic, Boston

RICHARD E. STRAIN, M.D.
Jackson Memorial Hospital, Miami

SEEMINGLY insignificant trauma to the head may be followed by a subdural collection of blood or fluid. Close questioning and careful examination and observation are necessary to make the diagnosis and determine the time for treatment.

Subdural hematomas are more frequent after the age of 40, when the veins forming a bridge between the cortex and sagittal sinus are more susceptible to slight injury, state James L. Poppen, M.D., and Richard E. Strain, M.D. If a sufficient amount of venous blood escapes into the subdural space, the accumulation is not absorbed and within a short time a membrane forms around the clot. The clot liquefies and the high total protein of the fluid in the sac attracts additional fluid. Symptoms of intracranial pressure develop.

The course of chronic hematomas is insidious, the time from injury to operation being usually about two months, but sometimes lasting as long as two years. A majority of patients do not remember having sustained an injury, or regard the trauma as trivial.

On hospital admission, nearly half the patients are believed to have brain tumors. About 75% have objective abnormal neurologic signs, while only subjective complaints are present in 10%. A clinical base line of observations must be established in all acute head injuries to aid the neurosurgeon when an attempt is made to decide whether surgical intervention is necessary. The progressive increase in the number of symptoms and in the severity is the most important diagnostic point.

The initial symptoms are usually headaches that are exaggerated by strain. Weakness or paresis of the extremities of one side of the body may follow and progress to complete unilateral paresis. Spasticity may appear, nearly always on the side opposite the lesion. Paresis and spasticity are the most accurate clinical signs for determining the side of the subdural hematoma. Dizziness and ataxia are common.

Disturbances of the state of consciousness are frequent. Many patients are in deep coma on admission to the hospital. Convulsions may occur preoperatively.

Chronic subdural hematomas. S. Clin. North America 32:791-799. 1952.

WHEN RELIEF OF HYPERTENSIVE SYMPTOMS

Presents Increasing Difficulties

The headache, vertigo, dyspnea and malaise associated with severe hypertension can be promptly controlled or greatly mitigated by Solution Intramuscular Veriloid. This intramuscularly administered hypotensive agent leads to prompt, sustained, and significant fall in blood pressure, providing welcome relief from distressing discomfort.

A single injection of Solution Intramuscular Veriloid lowers the blood pressure for 3 to 6 hours. In many instances, symptomatic relief persists for considerably longer periods. Through repeated injections, the arterial tension may be depressed for many hours or even days. Thereafter, suitable oral medication may be employed. This hypotensive agent is indicated in hypertensive states accompanying cerebral vascular disease, malignant hypertension, hypertensive crises (encephalopathy), toxemia of pregnancy, eclampsia and pre-eclampsia.

Solution Intramuscular Veriloid, containing 1 mg. per cc. of alkavervir in buffered isotonic saline solution, drops the blood pressure by central action. It has no influence on ganglionic activity and has no direct relaxing action on the blood vessels. Alkavervir, a unique fraction of the hypotensive alkaloids derived from Veratrum viride, is biologically standardized in dogs for hypotensive potency.

Solution Intramuscular Veriloid is supplied in boxes of six 2 cc. ampuls. Complete instructions for use accompany each package.

Solution

INTRAMUSCULAR VERILOID®

BRAND OF ALKAVERVIR

RIKER LABORATORIES, INC. • 8480 Beverly Blvd., Los Angeles 48, Calif.

Papilledema is found in 30%, and the pupils are abnormal in a slightly smaller number. When found, an abnormal pupil or a Babinski reflex reveals the side of the lesion in slightly over a third of the cases. Evidence of other cranial nerve involvement may be discovered. The facial nerve is most frequently involved.

Spinal fluid pressure may be normal or elevated, and the protein content of lumbar or ventricular fluid may be normal or increased.

Roentgenograms rarely demonstrate a skull fracture, but arteriography is of considerable aid in diagnosis. Air studies may be unrevealing, in spite of abnormal neurologic findings and serious illness. In 10%, diagnosis can be made only by exploration through multiple burr openings or a subtemporal decompression.

Bilateral burr openings usually give access to evacuate the hematoma, but turning down of an osteoplastic bone flap may be necessary if the subdural hematoma is organized. In most instances, liquefied hematomas can be satisfactorily drained through parietal burr openings.

All clots of blood should be washed out by inserting a rubber catheter into the cyst cavity and the catheter is left in place for twenty-four to forty-eight hours.

About 75% of the patients have no neurologic residual symptoms.

Brain Tumor Mapped by Radiophosphorus

T. P. MORLEY, F.R.C.S., AND SIR GEOFFREY JEFFERSON, F.R.S.

SOME types of brain tumor can be located and outlined at operation by injection of radioactive phosphorus and a Geiger-Müller probe counter. Requiring no special knowledge of electronics, the method is simple and practical in any surgical department.

P^{32} injected intravenously in a dose of 1 millicurie concentrates in the neoplasm within a few minutes. The probe counter of Selverstone and Robinson is used.

The technic is particularly useful for obtaining a small specimen through a burr hole because a cellular part of the tumor can be located. Meningioma, glioblastoma, and secondary carcinoma are demonstrated clearly. Astrocytoma may be missed; sparse-celled growths sometimes yield doubtful results; and tumors of the third ventricle, thalamus, pineal region, or brain stem are not discovered.

T. P. Morley, F.R.C.S., and Sir Geoffrey Jefferson, F.R.S., employed the probe in 37 cases at the Manchester Royal Infirmary, Manchester, England. The desired information was obtained in 14 of 15 biopsies. The probe failed in only 4 instances.

Use of radioactive phosphorus in mapping brain tumours at operation. Brit. M. J. 4784:575-578, 1952.

THE TRUTH ABOUT
FROZEN ORANGE JUICE

Significant Dietary Advantages Of Fresh-Frozen Minute Maid Orange Juice Over Home-Squeezed Orange Juice Shown By Independent Research

RECENT assays[1] emphasize the nutritional superiority of reconstituted Minute Maid Fresh-Frozen Orange Juice over home-squeezed orange juice in three respects:

a. Average levels of natural ascorbic acid were significantly *higher* in Minute Maid;

b. Peel oil content was significantly *lower;*

c. Bacterial counts were dramatically *lower.*

Two reasons for Minute Maid's higher ascorbic acid content are advanced:

First, oranges vary widely in ascorbic acid content.[2] Thus, whole oranges squeezed a few at a time provide a highly erratic source of Vitamin C. Each can of Minute Maid, however, represents the pooling of juice from hundreds of thousands of oranges; thus wide variations in nutrients tend to be eliminated.

Second, because it is frozen, Minute Maid loses none of its ascorbic acid content before reaching the consumer.[3] Whole fruit, however, is subjected to variations in temperature, and care in handling cannot be maintained from tree to table. Laboratory tests have shown an average ascorbic acid loss of 10.7% in whole oranges after 11 days under simulated storage and shipping conditions.

Peel oil, cause of allergic response and poor tolerance, especially in infants,[4] is held to an arbitrary minimum in Minute Maid. Samples of home-squeezed juice expressed by typical housewives showed peel oil contents up to 700% higher.

Bacterial counts were found to be as high as 350,000 per ml. in home-squeezed samples—but were uniformly low in Minute Maid. Technicians ascribe this to the combination of rigid sanitary controls in the Minute Maid process and the low pH and low temperatures at which the juice is kept. High bacterial counts in home-squeezed juice are doubtless due to contamination from the exterior peel which is unknowingly added to the juice during preparation.

In view of the above findings, more and more physicians now specify Minute Maid Fresh-Frozen Orange Juice in lieu of home-squeezed orange juice.

REFERENCES

(1) Rakieten, M. L., et al., Journal of the American Dietetic Association, October, 1951.

(2) U. S. Department of Agriculture Technical Bulletin No. 753, December, 1940.

(3) Roy, W. R., and Russell, H. E., Food Industries, Vol. 20, pp. 1764-1765 (1948).

(4) Joslin, C. L., and Bradley, J. E., Journal of Pediatrics, Vol. 39, No. 3, pp. 325-329 (1951).

MINUTE MAID CORPORATION, 488 Madison Ave., New York 22, N. Y.

Wallace R. Roy, Ph.D., Director of Research

Book Chapter

Rational Approach to Chemotherapy

GUSTAV J. MARTIN, SC.D.*
Philadelphia

From the book, Biological Antagonisms†

AT rare intervals into the systems of biological research come concepts which are intriguing to the scientific mind. These concepts are frequently of such simplicity as to cause wonder at their delayed arrival. Then, on closer examination, it is seen that a period of growth extending over many years led to the ultimate fully formed structure. Such a concept is the one of structural displacement, which rightly has been called the "Rational Approach to Chemotherapy."

To the immunologists goes credit for the first recognition of the value of the theory. Ehrlich applied it in his famed "Lock and Key" analogy. An entire world—the world of the antigen and antibody—grew up around this "Lock and Key" approach.

Enzyme chemists soon took up the new concept and developed it into a fundamental structure. The biochemist and the pharmacologist failed to recognize the merits of the metabolite analogue approach until much later.

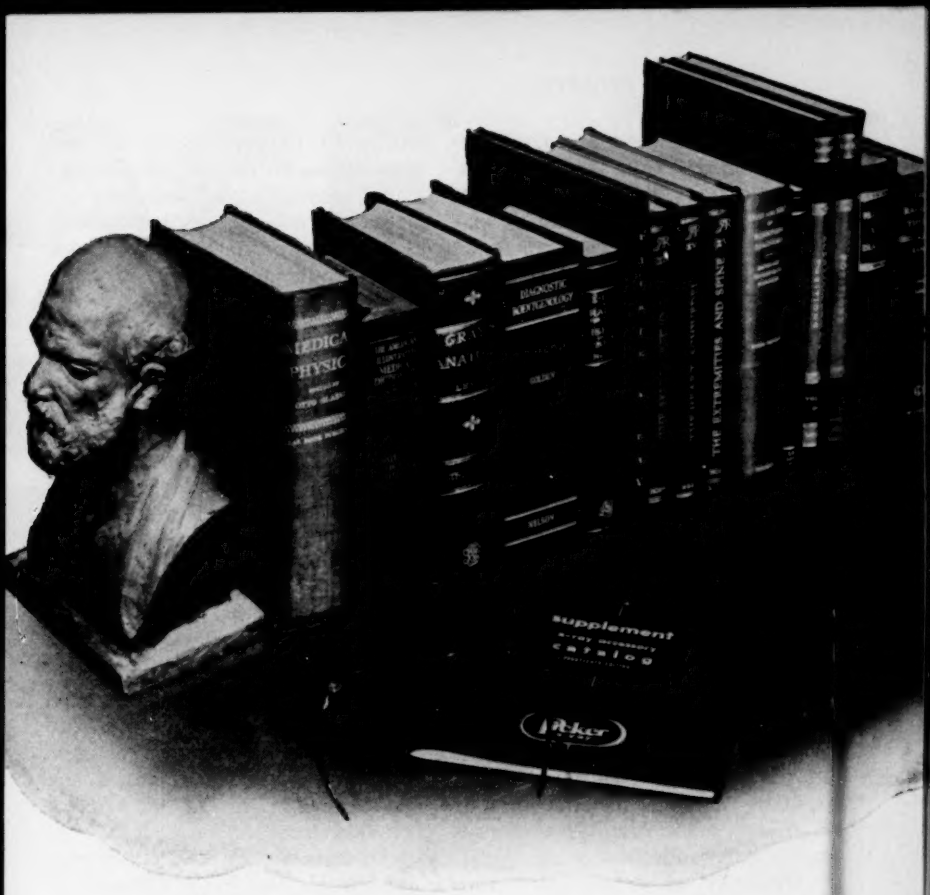
Pharmacology is applied biological antagonism. It has an enzymatic basis; metabolite analogues play a major role. In some instances, true competitive displacement occurs; in others, the mechanism is noncompetitive or even irreversible. The toxic effects of drugs represent quantitative but not qualitative differences. Above all else, the entire structure is relative.

Tissue selectivity or pharmacological specificity is a reflection of the summation of enzyme concentrations and of reaction sites on effector cells. There seems no reason to regard the reaction sites on effector cells as being different in any fundamental way from those on enzyme surfaces. The kinetics of enzymatic activity and of enzyme inhibition apply equally to pharmacologic activity phenomena.

Drug Tolerance and Bacterial Resistance

The effective concentration of a drug will depend upon its absolute concentration at a given time and upon the amounts of natural and synthetic inhibitors present. The absolute concentration of a given drug will be a function of the speed of formation or supply and the speed of metabolic destruction. In

*Research Director, The National Drug Company, Philadelphia.
†Excerpts from the book *Biological Antagonism, The Theory of Biological Relativity*, 516 pp. Published by The Blakiston Company, Philadelphia, 1951. $8.50



so many *new* things in this *new* supplement...

For almost forty years now the Picker X-Ray Accessories Catalog has been the standard of reference for materials used in radiography, fluoroscopy, and radiation therapy. You will find it on thousands of doctors' bookshelves.

But even in the short time since the last 200-page edition (its fourteenth), Picker has introduced so many new things—the Picker-Polaroid process, for example, which delivers a finished dry radiograph *within a minute after exposure*... the Darex FlexiCast "quick-freeze" Immobilizing Cast—*dozens* of things like that—that we now find it necessary to issue a 48-page supplement to include them all.

We'll be glad to send you the supplement if you already have the current Picker Accessory Catalog. Or *both*, if you don't. Either way, you'll keep abreast of recent developments in this eventful field.

x-ray

one source for everything in x-ray

PICKER X-RAY CORPORATION
25 S. Broadway | White Plains, N.Y.

some instances speed of enzymatic destruction of a drug would tend to prevent toxicity; in others the speed of metabolism might result in excessive formation of a more toxic material. There are two ways in which a so-called detoxication mechanism can produce toxic agents in the body: by conversion of the foreign compound, usually by oxidation or reduction into toxic agents; and by conjugation of the chemical with an essential metabolite, with resultant deprivation of the body of the metabolite for normal nutrition.

Biological antagonism enters this system in that such enzymatic reactions will preferentially attack either foreign molecule or natural substrate to the exclusion of the molecule of less affinity for reaction site. Drug tolerance and bacterial resistance have been regarded as separate entities. This position must be abandoned, as both are manifestations of enzymatic adaptation.

Similarity of detailed structure among enzyme reaction sites and effector cells doubtless accounts for pharmacologic overlap; e.g., atropine is an effective displacer of acetylcholine both from a parasympathetic system effector cell site and from cholinesterase. The affinity is greater for the effector cell and hence the drug acts as an antispasmodic.

The complexity of the action of pharmacologic agents is often mirrored in the influence one has on the toxicity of another. It is probable that in all cases this is due to the action of one agent as an inhibitor of the activity of an enzyme acting on the second. For example, physostigmine increases the toxicity of procaine by functioning as an inhibitor of procainesterase, which would normally destroy the drug by hydrolysis.

Balance and Counterbalance

Another factor resides in the structural differences of effector cell reaction sites within the same system. This is exemplified by the specificity of antiacetylcholine drugs for effector cell sites at neuromuscular junctions, ganglia, and nerve fiber. Nature has apparently directed the creation of a system of balance and counterbalance within each physiologic system and one such balancing knife edge is the dissimilarity of effector cell sites which would contribute to parasympathetic nervous system stability by rendering natural and synthetic inhibitors of one effector cell inactive against another.

An extension of the overlap phenomenon is seen in the existence of drugs acting on the inhibitor or excitor sympathetic components or, as in the case of epinephrine, on both.

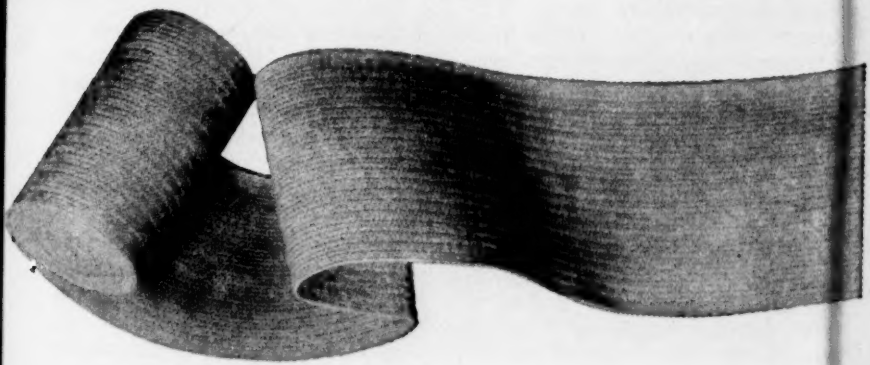
The fact that antihistamines possess in varying degree the characteristics of local anesthetics, antispasmodics, sympathomimetics, and sympatholytics tends to underline the probable structural similarity of the receptor sites for histamine, acetylcholine, and epinephrine.

Destructive enzymatic activity for a given pharmacologic agent is generally multiple in nature. There

ACE®

IS THE NAME TO KNOW IN

RUBBER ELASTIC



ACE RUBBER-ELASTIC BANDAGE

OPTIMAL THERAPEUTIC BENEFITS TO YOUR PATIENTS

MADE EXCLUSIVELY BY

B-D

BECTON, DICKINSON AND COMPANY, RUTHERFORD, N. J.

is not only 1 catabolic channel for epinephrine, there are actually 3 known mechanisms via monoamine oxidase, phenolase, and sulfoesterase. Biological relativity gives balance and stability to the living organism by providing few if any absolute channels of metabolism.

Design of Metabolite Analogues

As consideration of the design of metabolite analogues is extended, it becomes clear that effective agents can be formed by ring modification, ring substitution, or side chain alteration. In the case of the phenylalanine-tyrosine group, β-2-thienylalanine is typical of the first, p-fluorophenylalanine of the second, and phenylserine of the third type.

Virtually every enzyme involved in the metabolism of these amino acids has been found susceptible to the action of structural inhibitors. The enzymatic mechanisms of protein synthesis are prevented by β-3-thienylalanine; the action of tyrosinase is blocked by N-acetyltyrosine; the conversion of phenylalanine to tyrosine is stopped by β-2-thienylalanine; and the activity of dopa decarboxylase is reduced by p-fluorophenylalanine.

The chemotherapeutic and pharmacologic applications of displacers of this category have been few but the potentialities are indicated by the capacity of the pyridylalanine in preventing virus adsorption, and by the efficacy of p-fluorophenylalanine and other similar molecules in blood pressure reduction. In this latter consideration, the interrelated phenomena point up clearly the necessity for consideration of the over-all pattern rather than restriction of approach to a single phase. Here the goal is reduced concentrations of pressor amines and this would best be done by an approach designed to reduce intake of precursors, minimize decarboxylase substrate by optimal amino acid oxidase activity, retard phenylalanine oxidation to tyrosine and dopa, reduce the activity of the decarboxylase through substrate or cofactor displacement, and finally gain optimal activity of amine oxidase.

The lack of specificity of displacement might be considered a factor against the application of these agents, but it is encouraging to consider the nontoxicity of phenylserine to animals with its powerful antibacterial action. This establishes the probability that certain phases of phenylalanine-tyrosine metabolism essential to bacteria are not vital to animals. This differential requirement for natural metabolite forms the basis for application of metabolite analogues in chemotherapy and pharmacology.

The distinction between competitive and noncompetitive antimetabolites is established. A new class of multiple modification metabolite analogues is now revealed as a fruitful field. Permutations and modifications possible using one metabolite as model are enormous.

Vitamin B_{12} and Biological Antagonisms

It seems certain that ion antagonism will be demonstrated for

when healing lags...

Chloresium®

brand of water-soluble chlorophyll derivatives

ointment · solution (plain)

In ulcers, wounds, burns and dermatoses,
CHLORESIUM OINTMENT and SOLUTION (Plain)
promote normal tissue repair, relieve itching
and irritation, and deodorize malodorous lesions.

Rystan company inc.

Mount Vernon, New York

some of the functions of vitamin B_{12} as an intact molecular unit and that similar reactions will be involved in the biosynthesis of this factor. Ion antagonisms will doubtless block only a portion of the activities of the molecule, and these will be of an oxidative-reductive nature.

An indirect antagonism is manifested by vitamin B_{12} for the sulfonamides as demonstrated in the experiments of Shive wherein the amount of p-aminobenzoic acid required to counteract the growth-inhibiting power of a sulfonamide on *Escherichia coli* is reduced by two-thirds. This occurs in each of those systems blocked by sulfonamides which lead to the formation of methionine, serine, purines, and folic acid. The interpretation placed upon this work was that vitamin B_{12} acts as a catalyst for the utilization of p-aminobenzoic acid.

Another line of evidence precipitating vitamin B_{12} into the sphere of chemotherapy has been presented by Ershoff who reports the counteraction by this vitamin of the growth-inhibiting properties of atabrine. A liver preparation employed in these studies was more powerful than B_{12} in reversing the atabrine growth effect. This led Ershoff to propose additional factors of the B-group in the liver which were distinct from any of the known members.

Consideration of Growth Factors

The concept of the growth factor as "an essential metabolite which cannot be synthesized" was expressed by Fildes and is of paramount importance in a generalized consideration of biological antagonism. Essential metabolites are believed to be common to all cells, the distinguishing characteristic being in the requirements for growth factors. *E. coli* requires only ammonium as the building material for all its nitrogenous components. *Salmonella typhosa* must have preformed amino acids for its growth; it will not grow in a medium containing only ammonia. *E. coli* is able to synthesize the amino acids, which *S. typhosa* must have preformed. Nicotinic acid is vital to the growth of *Proteus vulgaris*. *Proteus* cannot form nicotinic acid from ammonia or from amino acids; apparently *E. coli* and *S. typhosa* can. Cozymase must be present preformed for the growth of *Hemophilus influenzae*, which cannot synthesize this factor from ammonia or amino acids or even from nicotinic acid.

Chemotherapeutically active displacement agents must be designed in accordance with requirements for growth factors. If they are to be designed for essential metabolites, the agent or agents must both displace the essential metabolite and prevent its formation. A design in displacing agents which brought only displacement of an essential metabolite would be useless, as the essential metabolite being synthesized by the bacterium would accumulate and in turn render the displacing agent innocuous.

The importance of an extensive knowledge of growth factor re-

CARBONATED BEVERAGES AND THE STOMACH-EMPTYING TIME OF HIGHBALLS

Alcohol increases gastric secretion of acid by local irritation as well as after systemic absorption.[1] In addition, there is retention of the acid within the stomach, resulting in acid "indigestion" on the one hand, and loss of alkali in the urine with ultimate systemic acidosis on the other.

Recent studies show in preliminary form that gastric acid secretion and retention due to alcohol can be lessened appreciably by carbonated beverages. This reduces loss of alkali and minimizes systemic acidosis, a factor in hangover.[2]

These results confirm older studies[3] that carbonation augments gastric contractions and shortens gastric emptying time. Recently[4] this increased speed of gastric emptying was corroborated by fluoroscopy.

These data indicate still further reasons why carbonated beverages are often preferred as vehicles for alcoholic drinks and are valuable where more rapid gastric emptying is desired.

(1) Linman, A., and Ivy, A.C., Study of Gastric Acidity in Man. Methods of Medical Research 1:269, 1948. Yearbook Publishers.

(2) Greenberg, L.A., August 2, 1952, to be published.

(3) Carnot, P., and Koskowski, Compt. rend. biol. 81:613, 1922.

(4) Lolli, G., Greenberg, L.A., & Lester, D., 1952 in press.

AMERICAN BOTTLERS OF CARBONATED BEVERAGES

THE NATIONAL ASSOCIATION OF THE BOTTLED SOFT DRINK INDUSTRY

American Bottlers of Carbonated Beverages

WASHINGTON 6, D. C.

quirements of bacteria is indispensable to the intelligent design of chemotherapeutic agents. Consideration must be given not only to the bacterial requirements but also to the requirements of different cellular elements of the human body. It is the differential requirements which will determine in each case the feasibility of any specific approach. For example, if the living tissue cells require more thiamine for life and normal function than do staphylococci, it would be illogical to use a thiamine displacer as a chemotherapeutic agent in such infections.

Specificity and Antidotes

The logic of the application of the concept of antagonism to the design of chemotherapeutic agents is indicated on two points.

First, the relative specificity of such agents assures their lower toxicity. If a chemical acts on a single system, it will not have the generalized toxicity of one acting on many systems. The most specific chemotherapeutic agent would be that one antagonizing the functions of a factor essential to an enzymatic system which bears the greatest degree of relative specificity for a given essential substrate transformation.

Second, as the antidote for the structural displacement compound is immediately available, it could be pushed to the limit without fear of overdosage. In the event of overdosage with pyrithiamine, for instance, thiamine could be injected to correct the situation, whereas in the event of overdosage with an agent such as quinine there is no treatment other than symptomatic.

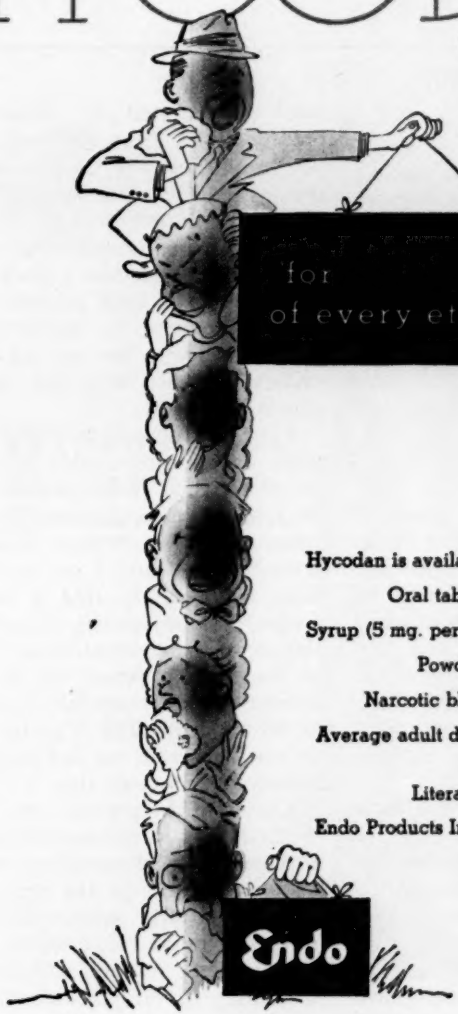
Displacement Mechanism

The mechanism of action of biological antagonists and more specifically of displacement compounds is in the alteration of the kinetics of enzymes. In general, factors influencing the kinetics of enzyme action include substrate and enzyme concentration, concentration of products of the actions, coenzymes, ions, *p*H, and temperature. Of these, only temperature is beyond the sphere of biological antagonism. Displacement agents can therefore be designed in accordance with the structures of vitamins, amino acids, and the like, or with segments of these molecules.

Important to the field of biology is the concept of relative enzyme concentrations in tissues as the basis of selective action. It proposes that the tissue or cell primarily affected by a chemical will be that one containing the smallest concentration of an enzyme which is essential for normal function and susceptible to the action of the chemical. Differential enzymatic concentration is immediately and directly related to differential nutrilite requirement, as it seems probable that all essential nutrilites function by virtue of their incorporation into or association with coenzyme or apoenzyme. Relative enzyme concentrations will therefore form the core of the future medical science; they will determine selective toxicity phenomena; they will underlie selective chemotherapeutic activity.

HYCODAN®

BITARTRATE (Dihydrocodeinone Bitartrate)



Hycodan is available in three forms:
Oral tablets (5 mg. per tablet),
Syrup (5 mg. per teaspoonful),
Powder (for compounding).
Narcotic blank required.
Average adult dose, 5 mg.

Literature on request.
Endo Products Inc., Richmond Hill 18, N.Y.

Medical Forum

Discussion of articles published in MODERN MEDICINE *is always welcome. Address all communications to The Editors of* MODERN MEDICINE, *84 South 10th St., Minneapolis 3, Minn.*

Dicumarol in Acute Myocardial Infarction*

QUESTION: Under what circumstances should dicumarol be used for myocardial infarction?

Comment invited from
Elliott Bresnick, M.D.
Stephen R. Elek, M.D.
Fred J. Schilling, M.D.
Raymond L. Rice, M.D.
Emmet B. Bay, M.D.
E. Sterling Nichol, M.D.
William L. Howell, M.D.
Sidney Davidson, M.D.

► TO THE EDITORS: Drs. Henry I. Russek, Burton L. Zohman, Alexander A. Doerner, Allen S. Russek, and LaVere G. White are to be congratulated for an excellent study which will undoubtedly lend further momentum to the return of the pendulum to the vertical position of a more rational approach to the use of anticoagulants for myocardial infarction.

It goes without saying that dicumarol should be used only in the absence of the accepted contraindications and when reliable laboratory facilities are available.

I certainly agree that so-called "good risk" patients should not be bothered by the frequent venipunctures necessitated by dicumarol therapy, aside from the very real dangers attendant upon the use of the anticoagulant. We have all seen patients, especially obese women, who become extremely upset emotionally by the needles. I much prefer to treat all such patients with proper attention to mobilization, even in bed with toe and ankle exercises, together with the aid of elastic stockings.

I am also inclined to believe that some of the unfavorable prognostic signs listed, while contributing to a higher mortality rate, do not necessarily do so through thromboembolic accidents. I am not certain, for example, that a patient with a previous myocardial infarction or with intraventricular block or temporarily intractable pain is subject to any increased likelihood of thromboembolism. I prefer elastic stockings with toe and ankle exercises in such cases also.

Certainly, in general, the value of dicumarol in myocardial infarction has been adequately shown. I should continue, for the present, to use dicumarol in patients who also have congestive heart failure, persistent shock, auricular fibrillation, or history of thromboembolism.

ELLIOTT BRESNICK, M.D.
Boston

*MODERN MEDICINE, Aug. 15, 1952, p. 65.

*made from resistance glass

*SYRINGES

1. LOCK TYPE SYRINGES
2. GLASS TIP SYRINGES
3. METAL TIP SYRINGES

There is a **VIM** Syringe for every purpose. Each is precision ground, fitted and tested to guarantee smooth action with exceptional freedom from backfire.

always specify **VIM**

MACGREGOR INSTRUMENT COMPANY
NEEDHAM 92, MASSACHUSETTS

Available through your surgical supply dealer

A *NEW*
NON-BARBITURATE
SPASMOLYTIC — SEDATIVE
IN SOFT GELATIN CAPSULES
containing
CHLORAL HYDRATE *plus* NATURAL
BELLADONNA ALKALOIDS

FELORAL®

FELORAL CAPSULES are packaged in moisture-proof strips for their protection. Patients may easily carry their daytime dosage of FELORAL CAPSULES in purse or pocket.

AVERAGE DOSAGE

Adults: One, two or three FELORAL CAPSULES with water, as indicated, at regular intervals, preferably after meals.

Infants: Rectally, one or more FELORAL CAPSULES as required.

Supplied: Prescription size — for economy — 100's

Samples? of course . . . on your request.

► TO THE EDITORS: I agree that patients with myocardial infarction in good clinical condition need not have dicumarol. In my own patients the incidence of thromboembolism without dicumarol has been low, although I appreciate the available statistics. It is not always easy to balance the potential disadvantages of dicumarol in a patient whose clinical condition is good. But, even if the clinical picture is satisfactory, I have found the following empirical rules useful as indications for dicumarol:

1] Previous myocardial infarct especially if this has occurred six to twelve months before.

2] Young individuals in the 20 to 30 age group. An extension of the coronary thrombus or an embolus may be disastrous.

3] Any patient 60 years of age or more. In Wright's large series the greatest reduction of mortality occurred in this age group.

4] Patients with previous angina. The injection studies of Schlesinger have shown that many of these patients have had small, nonclinical coronary thrombi.

5] Congestive heart failure or a recent history of it because dicumarol significantly reduces the incidence of thromboembolism.

6] Significant hypotension—systolic blood pressure of 80 mm. of mercury or less lasting for one or more hours. In a patient with previous hypertension, a drop of systolic blood pressure of 50 mm. of mercury or more may warrant the same consideration.

7] Cardiac arrhythmias like auricular flutter or fibrillation and ventricular tachycardia. When quinidine or similar drugs are used, anticoagulants should be given.

8] The existence of lesions predisposing to thromboembolism: varicosities, previous thrombophlebitis or pulmonary embolism, obesity, and so on. This is especially true in patients 50 years of age or more.

The above considerations may transcend the evaluation of patients as good or bad risks according to the usage of Dr. Russek et al.

It is worth noting that the presumed adverse effect of dicumarol on healing of the myocardial infarct has been refuted by the experimental work of Blumgart, Beattie, and others. In addition to the usual signs of bleeding due to excess of dicumarol, Wolff's reports on a sudden increase in heart size irrespective of its contour or presence or absence of cardiac pulsations suggest hemorrhagic pericarditis and warrant discontinuance of this drug.

I follow the clinical rule that dicumarol should be continued for at least four weeks after the first thromboembolic episode. I prefer to see all patients daily for several days after cessation of dicumarol therapy. The present difference in statistics regarding the dangers of anticoagulant therapy is based upon differences in expert usage and the reliability of the appropriate laboratory tests. I rarely see bleeding due to dicumarol and I do not use this drug if the laboratory tests are not dependable.

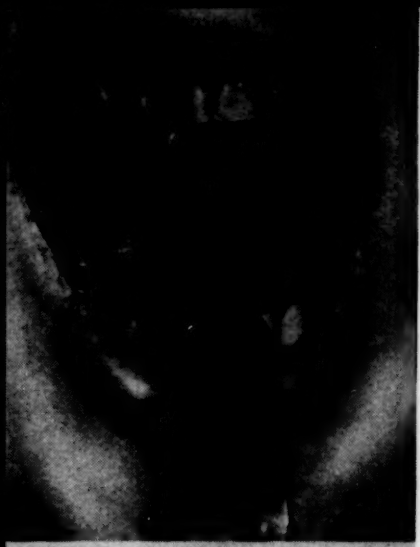
STEPHEN R. ELEK, M.D.
Los Angeles

► TO THE EDITORS: Anticoagulants should be used in all cases of myocardial infarction treated in institutions where facilities are available for adequate prothrombin determinations and the physician is capable of administering safe anticoagulant therapy.

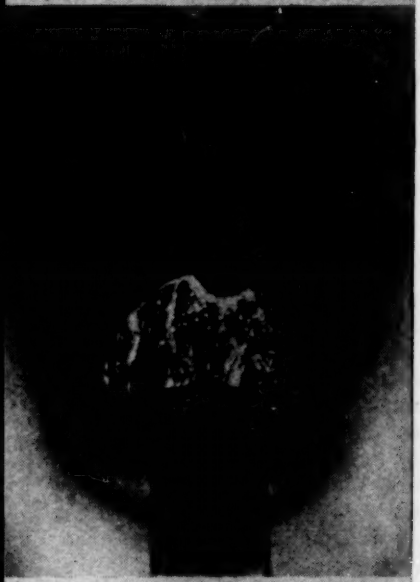
these photographs show

a most effective way to treat

sore throat



Pharynx before administration of Paredrine-Sulfathiazole Suspension



After the intranasal instillation of Paredrine-Sulfathiazole Suspension

Instilled intranasally, Paredrine-Sulfathiazole Suspension drifts down over the nasopharynx and pharynx; coats infected areas with a soothing, bacteriostatic frosting. It is not quickly washed away, but clings to the throat for hours—assuring prolonged bacteriostasis. The Suspension is particularly effective in sore throat when instilled on retiring. Frequently, it produces bacteriostasis (and analgesia) all night long.

Smith, Kline & French Laboratories, Philadelphia

Paredrine-Sulfathiazole Suspension

Vasoconstriction in minutes . . .
Bacteriostasis for hours

'Paredrine' and 'Micraform' T.M. Reg. U.S. Pat. Off.

A *suspension* of 'Micraform' sulfathiazole, 5%, in an isotonic aqueous medium with 'Paredrine' Hydrobromide (hydroxyamphetamine hydrobromide, S.K.F.), 1%; preserved with ortho-hydroxyphenylmercuric chloride, 1:20,000.

During the investigation of anticoagulants in myocardial infarction and shortly after this period, it was felt that anticoagulants were definitely responsible for a decrease in mortality. For the past two to three years the pendulum has swung toward careful selection of cases for anticoagulant therapy. Careful selection of cases as far as those in whom it is contraindicated is noteworthy.

A review of selected cases of myocardial infarction not receiving anticoagulants shows that there has been a high percentage of thromboembolic accidents as well as extension of the original thrombus or a new thrombosis in another coronary vessel among these so-called good risk patients.

All cases of myocardial infarction are potentially dangerous as far as extension of thrombosis and embolic complications are concerned. It is simpler to organize a prothrombin laboratory and learn safe anticoagulant therapy than to attempt to classify the severity of myocardial infarction from day to day and to assume the risk of a thromboembolic accident in a patient who has this dangerous disease.

FRED J. SCHILLING, M.D.
New York City

► TO THE EDITORS: One broad rule governs my decision to employ or omit dicumarol in the therapy of myocardial infarction: If conditions predisposing to intracardiac or intravascular thromboses are not amenable to the usual measures directed at their prevention, dicumarol is indicated.

Factors that favor thromboses in the peripheral veins are obesity, prolonged bed rest, varicosities in the lower extremities, and history of present or past thrombophlebitis or of previous pulmonary embolism.

Any patient at complete bed rest for long periods of time, with or without a myocardial infarction, should be:

1] Turned in bed at definite stated intervals to avoid circulatory and pulmonary stasis.
2] Instructed in the use of passive or active leg exercises to prevent the formation of phlebothrombi (patients are instructed to press their toes against the foot of the bed 10 times at three-hour intervals while awake). Any phlebothrombi which may have formed in the interval will be small and safely seeded through the lung.
3] Fitted with rubber stockings if indicated.
4] Aided in deep-breathing exercises to avoid pulmonary congestion which adds to the morbidity of pulmonary embolism.

These simple procedures will prevent the great majority of extracardiac intravascular thromboses.

Factors favoring intracardiac thromboses are subendocardial infarction or endocardial involvement secondary to a myocardial infarction with the formation of a mural thrombus, and stasis of the intracardiac blood because of cardiac arrhythmias, shock, or cardiac enlargement.

The clinical picture will usually correctly suggest the presence of intracardiac stasis, the possibility

(Continued on page 152)

ALZINOX

[Brand of Dihydroxy Aluminum Aminoacetate]

AN **A**NTACID WITH PROMPT
AND PRO**L**ONGED EFFECTIVENESS,
RECOGNI**Z**ING THE NEED FOR
FLEX**I**BLE BUFFER ACTION,
LOW ALUMI**N**UM CONTENT,
FREED**O**M FROM ACID REBOUND,
AND E**X**CEPTIONAL PATIENT-APPEAL

ALZINOX offers swift relief of pain in hyperacidity and uncomplicated cases of peptic ulcers.

ALZINOX Tablets and **ALZINOX** Magma are both highly acceptable to patients. The tablets are small enough, and disintegrate rapidly enough in the stomach, to be swallowed without chewing.

ALZINOX Tablets--0.5 Gm. (7½ gr.), bottles of 100 and 500

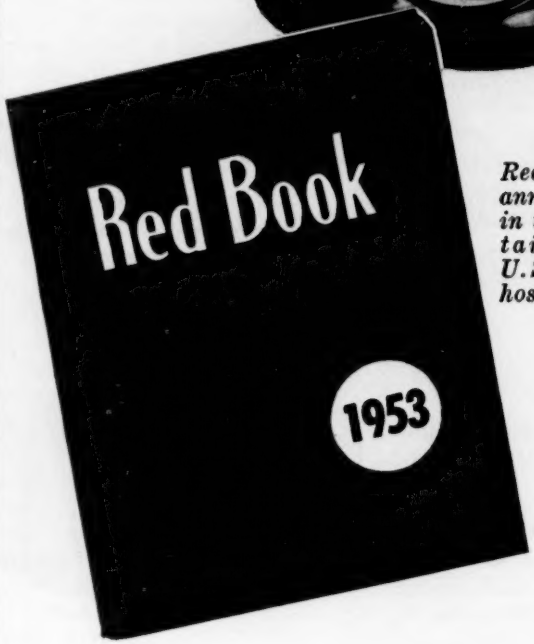
ALZINOX Magma--0.5 Gm. (7½ gr.) per 5 cc.; bottles of 8 fl.oz.

For extra sedation and spasmolysis:

Tablets **ALZINOX** with Phenobarbital (¼ gr.) and Homatropine Methyl Bromide (1/100 gr.), bottles of 100 and 500

Magma **ALZINOX** with Phenobarbital (¼ gr. per 5 cc.) and Homatropine Methyl Bromide (1/100 gr. per 5 cc.); bottles of 8 fl.oz.

THE
E. L. PATCH COMPANY
STONEHAM • MASSACHUSETTS



The Drug Topics Red Book is published annually, and delivered in the Fall to every retail druggist in the U.S., plus all leading hospital pharmacies.

DRUG TOPICS RED

330 West 42nd Street, New York 36, N. Y.

SERVING THE DRUG TRADE

current data on many ethical specialties

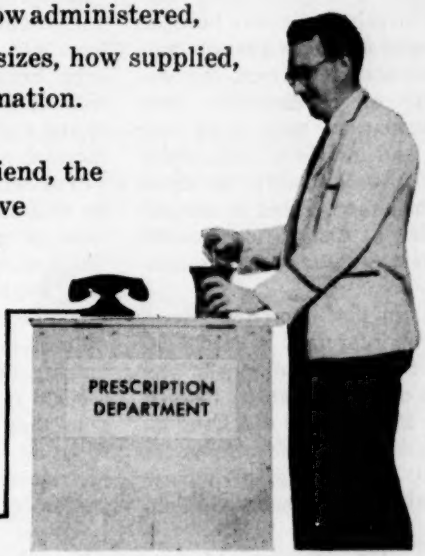
AS NEAR AS YOUR TELEPHONE

To obtain fast, accurate and up-to-date information on over 1400 ethical specialties... and proprietary medicines... just phone your friend, the pharmacist.

He can quickly get the current information you desire from his copy of the new 1953 Drug Topics Red Book which has just been delivered to him.

On listed ethical specialties and proprietary medicines, the Drug Topics Red Book tells what the product is, what it's for, how administered, dosage, contraindications, sizes, how supplied, and other pertinent information.

Remember, your friend, the pharmacist, is eager to serve you in every possible way.



BOOK

SINCE 1897

of an infarction large enough to involve the endocardium, shock, cardiac arrhythmias, or congestive heart failure. Should these conditions prevail in spite of active supportive therapy, a serious myocardial infarction is present and anticoagulant therapy is indicated. It can be initiated if the issue is in doubt and discontinued if a less severe infarction eventuates.

I prefer to use heparin intravenously at four-hour intervals during the first forty-eight hours of therapy or until concomitant dicumarolization can become complete. I would not use dicumarol unless daily prothrombin times performed by a competent technician in a reputable laboratory were available.

I agree with others (Bresnick, E. et al. *New England J. Med.* 243:806-810, 1950) that the routine use of dicumarol for therapy of myocardial infarction as administered under average hospital conditions is largely ineffective because of inexperience on the part of physicians handling the cases, the unavailability of prothrombin time determinations on week ends and holidays, and individual differences in patient susceptibility to dicumarol. The large number of complications due to dicumarol recorded in the literature supports this conclusion.

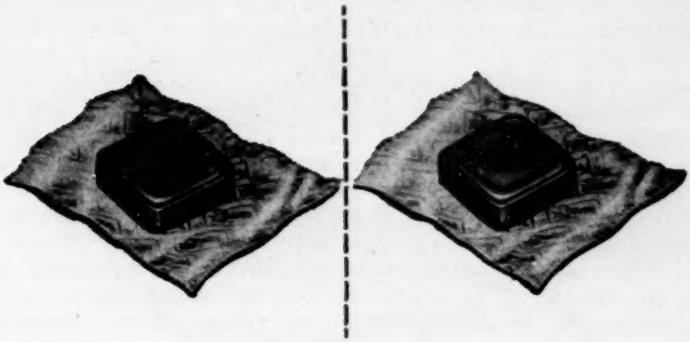
Long-term dicumarol therapy in myocardial infarction is rarely indicated. Repeated pulmonary emboli from mural thrombi or chronic auricular fibrillation is a definite indication for its use. The intravenous use of 50 to 100 mg. of heparin twice weekly may prevent additional coronary thromboses. The evidence that dicumarol prevents attacks of coronary thrombosis is unconvincing. Routine dicumarolization, which in our community necessitates hospitalization of every patient with myocardial infarction, adds appreciably to the cost of this already expensive disease.

RAYMOND L. RICE, M.D.
Milwaukee

► TO THE EDITORS: Although dicumarol is a difficult drug to use, the authors failed to convince me that it should not be used in every case of acute myocardial infarction as soon as the diagnosis can be made. The mortality rate of 3.1% in the so-called good risk patients is not explained fully, but there is no justification for the statement that anticoagulant therapy would have resulted in a preventable mortality of at most only 1%. Some of the deaths which were not embolic may well have been brought about by an extension of the thrombosis proximally in the coronary tree with an ever-increasing area of infarction.

The most certain thing that can be said about the prognosis in any case of acute myocardial infarction, with or without anticoagulant treatment, is that it is very uncertain. While it is true that the outlook is better for those patients lacking the unfavorable signs described in the article, it is equally true that such patients may, and often do, die suddenly and without any warning signs. Most of these instances are presumably the re-

whenever you prescribe amphetamine



In **ADJUDETS** the physician has at his command a valuable new dosage form of amphetamine.

ADJUDETS *are handy*. They can be taken anywhere, any time, without water; they are welcome because they look and taste like a pleasant candy troche.

ADJUDETS *provide dextro-amphetamine*. This means smooth, sure action, with remarkable freedom from undesired side effects that often accompany amphetamine therapy. They also supply essential vitamins to help protect the patient against vitamin deficiency.

ADJUDETS are valuable in management of: overweight, mild depression, alcoholism, narcolepsy, postencephalitic parkinsonism, children's behavior problems, enuresis, etc.

ADJUDETS*

d-amphetamine-multivitamin troches, Wyeth

amphetamine and essential vitamins

in pleasant-to-take candy troche form

Wyeth ®

*Trademark

sult of ventricular tachycardia or fibrillation which anticoagulants do not prevent.

Hemorrhage may occur in spite of close supervision of the patient's dosage schedule. However, under these circumstances it happens only rarely and can be very quickly controlled.

If the physician can rely on his laboratory's prothrombin time estimations, his patients will be better off if anticoagulants are used routinely.

EMMET B. BAY, M.D.

Chicago

► TO THE EDITORS: The data presented by Dr. Russek and associates are intriguing, but caution must be used in accepting conclusions drawn from a retrospective study of hospital cases rather than from patients currently treated and under observation. The authors failed to describe the criteria on which their diagnosis of acute myocardial infarction was based, so one must assume their "good risk" cases were typical cases of acute myocardial infarction, not just acute coronary insufficiency with subendocardial focal necrosis.

In order to see if it is practical to separate patients experiencing acute myocardial infarction into good and bad risk categories, a cooperative study is now in progress in Jackson Memorial Hospital, Miami (which will be extended to include patients in the Miami Heart Institute), whereby, on the day of admission, patients diagnosed as having acute myocardial infarction are put in one or the other category and anticoagulants are given or withheld accordingly. Such an investigation should be carried out in many hospitals by clinical investigative teams so that sufficient data may be brought to bear on the question of whether a clinician can assess the chances a patient with acute myocardial infarction has of escaping thromboembolic complications, including extension of the coronary thrombosis or development of a new area of infarction. Unfortunately, considerable difficulty in our investigative team has arisen in properly estimating whether some patients are good or bad risks using the criteria laid down by Dr. Russek and his associates for identification.

Most students of the problem now agree that premonitory signs of myocardial infarction precede the frank episode in at least 15 to 20% of cases. It should be kept forcibly in mind that the diagnosis of impending infarction is made from the patient's story, not the electrocardiogram! If this is true, how can one safely withhold anticoagulants during a mild attack since it may be the premonitory phase of a worse attack?

I have given anticoagulants—heparin and dicumarol—to over 100 patients whose clinical findings warranted the diagnosis of *impending* myocardial infarction or acute coronary insufficiency. It is only in retrospect that these two conditions can usually be differentiated. The first 41 cases so handled were

reported a few years ago. Only 5 cases went on to gross myocardial infarction, suggesting strongly that a number of patients were spared an attack of acute myocardial infarction by the prompt use of heparin and dicumarol in the premonitory phase. Wood and Smith and Papp, in England, have reported recently the successful use of anticoagulants in the premonitory phase of myocardial infarction. If Dr. Russek's thesis is correct, these authors are in error as well as the writer. There is a good possibility that in light attacks more can be accomplished preventively with anticoagulants than in full-blown episodes.

A calculated risk of hemorrhage must be accepted in treating patients with anticoagulants. In my own experience with nearly 300 patients treated during acute attacks of myocardial infarction, the incidence of gross bleeding was approximately 10%. Only 1 patient died as a result of hemorrhage, and more than half of those with gross bleeding resumed anticoagulants without further hemorrhage. As clinical experience everywhere multiplies in handling anticoagulants, the *percentage* of serious hemorrhagic incidents will diminish instead of increase.

E. STERLING NICHOL, M.D.
Miami

► TO THE EDITORS: During the past five years I have used heparin intravenously and a dicoumarin as soon as a presumptive diagnosis of myocardial infarction has been made. Heparin, given at four intervals day and night, is discontinued as soon as the prothrombin time reaches therapeutic levels.

Since the institution of this regime, the incidence of acute coronary insufficiency in my practice has increased. I wonder if others have had a similar experience.

It is my present feeling that this regime may be used routinely for the first week or ten days, following which the criteria suggested by Dr. Russek et al. might be applied as regarding longer therapy.

WILLIAM L. HOWELL, M.D.
Washington, D.C.

► TO THE EDITORS: I believe that dicumarol or some other anticoagulant therapy should always be used in acute myocardial infarction. Not only should it be used in acute myocardial infarction, but also in acute coronary insufficiency with myocardial ischemia.

I do not agree with Dr. Russek and associates that only the "poor risks" should be given anticoagulant therapy. The "good risks" also die of thromboembolic phenomena. Besides helping to prevent thromboembolization in the "good risks," the administration of anticoagulants helps in other less obvious but just as important ways.

The prompt use of anticoagulant therapy undoubtedly prevents extension of the thrombus, if there is one, and probably reduces the area of infarcted muscle. Anticoagulant therapy also decreases the possibility of spontaneous thromboses in

The Best Tasting Aspirin You Can Prescribe.

Children Take It Without the Least Bit of Fuss

The Flavor Remains Stable Down to the Last Tablet in the Bottle.

24 Tablet Bottle... 2½ gr. each 15¢

2½ gr. 1¼ gr. Grooved Tablets—Easily Halved.

NEW *FLAVORED* CHILDREN'S SIZE *BAYER ASPIRIN*

Sig.


Swallowed Whole


Chewed


Dissolved on Tongue


Or in Food Or Liquid

We will be pleased to send samples on request.

THE BAYER COMPANY DIVISION *of Sterling Drug Inc.* 1450 Broadway, New York 18, N. Y.

the extremities. The excellent results reported with the routine use of anticoagulants in the treatment of congestive heart failure are significant.

In addition to the patients with acute myocardial infarction, those who have had the so-called middle syndrome of acute coronary insufficiency with myocardial ischemia, with or without significant electrocardiographic changes, should also be treated with anticoagulants. There is no doubt that, in many of these cases, prompt administration of anticoagulants will decrease the amount of myocardial damage by preventing a thrombosis and subsequent infarction. Certainly the good results reported by Nichols and others in reducing the incidence of further vascular accidents in patients with coronary artery disease by the use of dicumarol on an out-patient basis make me feel that dicumarol therapy is even more justified in patients who are in the acute phase of such an illness.

Much has been made of the possibility of hemorrhagic complications resulting from anticoagulant therapy. Dr. Russek and associates note that most of these statistics come from large medical centers and imply that they are not truly representative and that for the country as a whole the results are much poorer. I myself practice in two hospitals in a comparatively small community. They average 150 beds each. In these hospitals the use of anticoagulants in acute myocardial infarction is routine. In the past three years, the incidence of all complications has been extremely low, and there have been no serious complications.

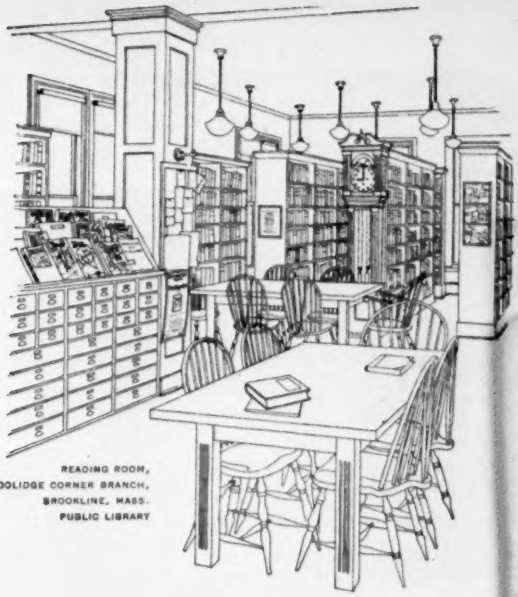
From our experience, I believe that most of the complications reported occurred during the first years of anticoagulant therapy; since the average physician using these measures has become more adept, the incidence of such complications has become minimal.

In summary then, I feel that all patients with not only acute myocardial infarction but also with acute coronary insufficiency and myocardial ischemia should be given anticoagulant therapy and, if the facilities are available, the therapy should be continued in many cases on an ambulant basis thereafter.

SIDNEY DAVIDSON, M.D.
Lake Worth, Fla.

"Alimentary, my dear Watson."

New aureomycin minimal dosage for adults —four 250 mg. capsules daily, with milk.



READING ROOM, COOLIDGE CORNER BRANCH, BROOKLINE, MASS. PUBLIC LIBRARY

a most widely accepted antibiotic in the broad-spectrum field is

AUREOMYCIN

Hydrochloride Crystalline

because

Physicians in the United States and throughout the world have recognized the time-saving value of immediate use of aureomycin in cases of active infection.

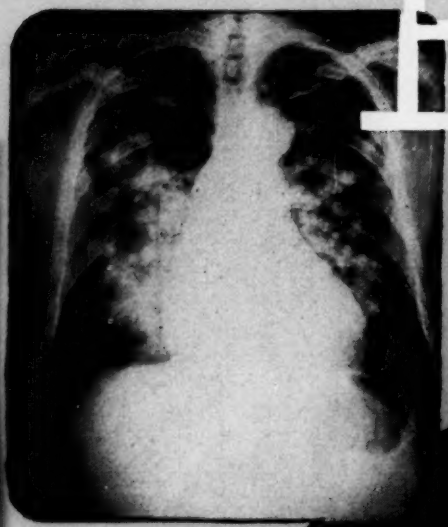
The successful use of aureomycin, as described in publications by physicians throughout the world, has increasingly encouraged others to use this antibiotic and publish reports thereon. To date, more than 7,000 original reports, editorials, brief comments, and similar notations have appeared in the published literature.

The trend of the literature clearly indicates that in desperate situations caused by infection, where previously cure would have proved difficult or impossible, aureomycin has saved the day.

Capsules: 50 mg.—Vials of 25 and 100. 100 mg.—Vials of 25 and bottles of 100. 250 mg.—Vials of 16 and bottles of 100.
Ophthalmic Solution: Vials of 25 mg.; solution prepared by adding 5 cc. distilled water.

LEDERLE LABORATORIES DIVISION AMERICAN Cyanamid COMPANY
30 Rockefeller Plaza, New York 20, N. Y.

Harmony



In congestive heart failure, passive congestion of the lungs is a typical finding, as well as edema in dependent tissue.

To 'lighten the load' in Congestive Heart Failure

Calpurate is particularly indicated: When edema is mild and renal function adequate... during "rest periods" from digitalis and mercurials... where mercury is contraindicated or sensitivity to its oral use is present ... for moderate, long-lasting diuresis in chronic cases.

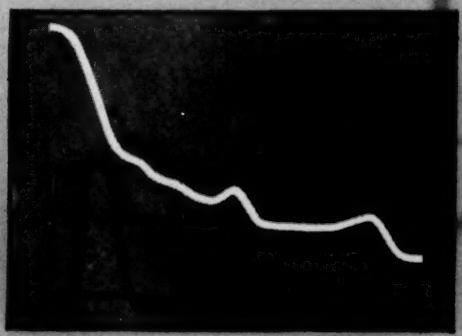
n the diuresis program

Because of its moderate diuretic action and minimal toxicity, *Calpurate* blends harmoniously with the long-term diuretic regimen for edematous patients. *Calpurate* is the chemical compound, theobromine calcium gluconate, noteworthy for its remarkable freedom from gastro-intestinal and other side effects. *It does not contain the sodium ion.*

Calpurate conforms with the basic principles of modern cardiac therapy not only by relieving the heart load of excess fluids, but also by promoting increased cardiac output through myocardial stimulation. *Calpurate with Phenobarbital* is useful in relieving accompanying anxiety and tension, as in cases of hypertension.

Supplied as *Calpurate Tablets* of 500 mg. (7½ gr.) and *Powder;* also *Calpurate with Phenobarbital Tablets,* phenobarbital 16 mg. (¼ gr.) per tablet.

MALTBIE LABORATORIES, INC. • NEWARK 1, N. J.



Calpurate therapy results in increased urine output, lowered body weight, and decreased edema.

Calpurate® *the moderate, non-toxic diuretic*

Diagnostix

Here are diagnostic challenges presented as they confront the consultant from the first clue to the pathologic report. Diagnosis from the Clue requires unusual acumen and luck; from Part II, perspicacity; from Part III, discernment.

Case MM-228

THE CLUE

ATTENDING M.D: The 43-year-old man in the next bed has a fever of undetermined origin. He was perfectly well until six days before admission, ten days ago today, when he had severe headache, malaise, nausea, and vomiting. Fever has varied since then from 103 to 105°. I saw him on admission, at which time he had a fine reddish macular rash on the trunk and abdomen. The rash blanched on pressure and later spread to the extremities, but not to the palms or soles.

VISITING M.D: What is his occupation and nationality?

ATTENDING M.D: He is Russian, has lived in this country since the age of 10, and is a shoe repair man by trade.

VISITING M.D: Past history?

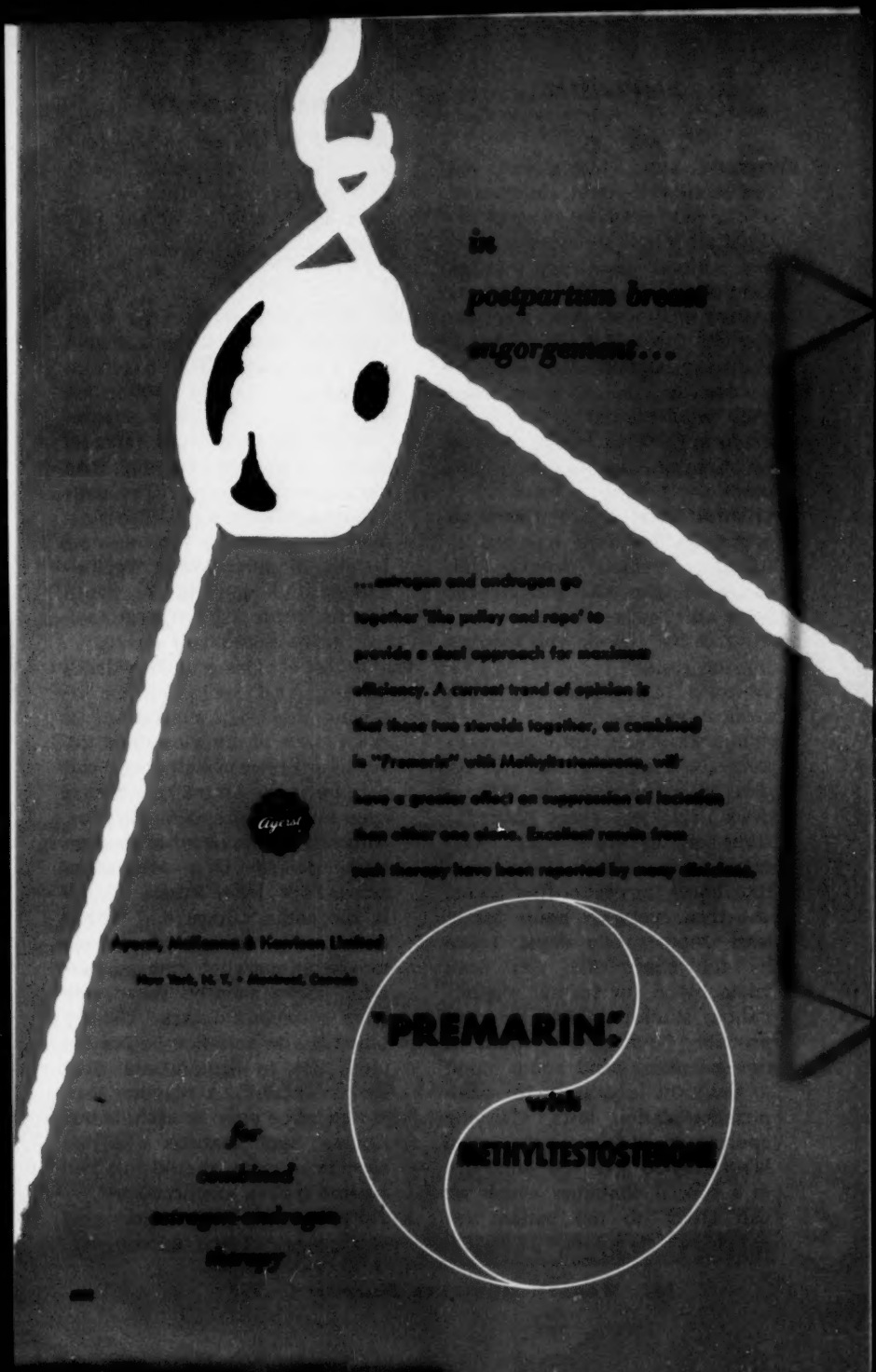
ATTENDING M.D: Completely unremarkable, except that at the age of 7 he had a serious fever of some sort, probably typhus or typhoid.

PART II

VISITING M.D: Please give the clinical history in detail. I have only a sketchy idea of the man's illness *(begins to examine patient, listening to history at the same time).*

ATTENDING M.D: Associated with the early afebrile symptoms was abdominal pain with some distention. The patient was treated by his family doctor with a combination of penicillin in large doses and sulfonamides. When he entered the hospital he was dehydrated; the abdominal pain was diffuse. Diagnosis of septicemia was made, and negative blood cultures were attributed to the chemotherapy. He lives next to a petshop where birds, dogs, rats, and mice are sold.

VISITING M.D: Physical examination does not help very much; there are a few râles, and the liver margin is barely palpable.


in
postpartum breast
engorgement...
...estrogen and androgen go
together 'like pulley and rope' to
provide a dual approach for maximum
efficiency. A current trend of opinion is
that these two steroids together, as combined
in "Premarin" with Methyltestosterone, will
have a greater effect on suppression of lactation
than either one alone. Excellent results from
such therapy have been reported by many clinicians.
Ayerst
Ayerst, McKenna & Harrison Limited
New York, N. Y. • Montreal, Canada
"PREMARIN"
with
METHYLTESTOSTERONE
for
combined
estrogen-androgen
therapy

PART III

ATTENDING M.D: Hemoglobin, red and white cell count, differential count, and urinalysis—except for slight albuminuria—were all normal. Blood chemistry studies were unrevealing. He has had extensive laboratory work, as you can see from the chart. Stool, electrocardiogram, and roentgenograms of the abdomen and chest were normal.

VISITING M.D: What results did you get from the agglutination studies?

ATTENDING M.D: Blood drawn on admission has been reported as follows: typhoid, paratyphoid, tularemia, *Brucella,* and *Proteus* X19, all negative.

VISITING M.D: How do you account for the rash?

ATTENDING M.D: Toxic or from medication. . .

VISITING M.D: You mean you don't know. I think the man has typhus. Begin aureomycin in large doses, 250 mg. every hour for three doses, then every two hours until afebrile, then every four hours for twenty-four hours, and then every six hours for at least another two days. I see by the chart that you have taken blood for further agglutination studies today; we will probably be helped by that. In the meantime send some blood to the virus laboratory for complement-fixation tests. Get the epidemiologist from the state laboratory to give you some lice in a special container which we can attach to the patient for about twelve hours. Then the lice can be placed on a rabbit and finally ground up and injected intraperitoneally into rats; if there are rickettsiae, we will find them.

PART IV

ATTENDING M.D: *(One week later, entering same patient's room with Consultant)* This has been a dramatic recovery. Within six hours after the first dose of aureomycin, the rash began to fade. It was gone the next day, and the man was afebrile. The temperature fell from 105° to normal! He received a total dose of 10 gm. of aureomycin. Agglutination studies made the tenth day for *Proteus* X19 were positive in the dilution of 1:320.

VISITING M.D: This man has Brill's disease. This sporadic type of typhus should be considered in every case of undetermined fever in a foreign-born person, and perhaps in an American who has been in areas of endemic typhus. Almost all cases occur in foreign-born people from European areas, 80% from Russia. Usually the patients have had typhus at an early age and then have no symptoms but remain carriers. Subsequently they may have a second attack. Usually blood has to be taken before the ninth day to demonstrate rickettsiae. Weil-Felix reaction cannot be relied upon to exclude this disease; agglutinations with the specific antigens of epidemic and murine typhus are necessary.

ATTENDING M.D: I'm certainly glad you suggested the aureomycin.

The Case of the Physician WHO HEALED HIMSELF

ACCORDING to the old adage, the shoemaker's children never have shoes. How aptly this applies to the many physicians who are so engrossed in caring for others that they fail to care for themselves properly.

I recall the case of Dr. J. M., an eminent surgeon in our city, who considered giving up his practice because of a severe dermatitis that threatened to envelop his entire hands and forearms. The knuckles became so cracked and fissured that flexing the fingers was both difficult and painful. With the exquisite manual dexterity required in surgery, such a condition seriously threatened this man's entire future.

An examination by a staff dermatologist disclosed that the cause of the dermatitis was the frequent pre-operative scrubbing with tincture of green soap.

Tincture of green soap is perhaps as mildly alkaline as a liquid soap can be. Nevertheless, it is rather high in excess free alkali, which is necessary to obtain thorough saponification. The constant de-greasing action of the natural skin oils, plus the drying effect of the alcohol in the green soap often tends to remove the natural sebaceous materials from the skin faster than the glands of the skin can replace them. This is especially true in the winter months.

The dermatologist recommended to the physician that he follow assiduously a plan of hand care, using a preparation containing effective skin lubricants plus the healing agent, carbonyl diamide. This preparation is called AR-EX Chap Cream. The surgeon was delighted to know of this preparation because, while he was well aware of the use of urea in the healing of surgical wounds, it had never occurred to him that it had been incorporated into a hand cream.

Within a few days after starting the use of AR-EX Chap Cream, the hands of the surgeon were well on the mend, and soon cleared up completely. Continued use of the cream has kept the hands in good condition.

I know that many other physicians and nurses who scrub often have the same difficulty with drying and chapping of the hands.

Whenever I have been asked about this condition, I have always recommended AR-EX Chap Cream. It is quite apparent that the small epidermal cracks in the skin that are characterized as "chapping" respond just as do surgical wounds to the contained carbonyl diamide. Furthermore, the fatty substances in the AR-EX Chap Cream, including cholesterol, are of great help in keeping the skin soft, smooth, and white and intact.

THE MEDICAL DETECTIVE

BASIC SCIENCE *Briefs*

Cardiology

Altered Cholesterol Synthesis

Since practically all the cholesterol in the blood of the rat is produced in the liver, Dr. Ray H. Rosenman and associates of Mount Zion Hospital and Harold Brunn Institute, San Francisco, use the biliary concentration of cholesterol as an index in determining that pregnancy depresses the rate of hepatic synthesis. Estrogens, known to increase during gestation, similarly affect biliary cholesterol concentration and excretion, indicating that high levels of the hormone may be responsible for alteration of cholesterol metabolism in the gravid state.

Bull. Johns Hopkins Hosp. 91:105-108, 1952.

Epidemiology

Viral Survival in Flies

Poliomyelitis virus can be detected in flies between the fifth and seventeenth day after eating infected human stools and in the insect's excreta from the fourth to the tenth day. Under similar circumstances the persistence of the Coxsackie organism varies from two to twelve days. The former withstands drying and storage at room temperature for three or more days, the latter for fifteen days, and both for three weeks at 4° C. Although blow- and houseflies have not been proved true hosts, Drs. Joseph L. Melnick and Lawrence R. Penner of Yale University, New Haven, Conn., and the University of Connecticut, Storrs, suggest that the insects may become a source of food contamination several miles away because of survival of the disease agent in dried excrement for one or two days. Sewage sludge and adult flies emerging from maggots fed the virus do not harbor either the infantile paralysis or C forms.

J. Exper. Med. 96:255-271, 1952.

"Can't I have another patient, Doctor, and start over?"

Through the Menstrual Years of Life . . .

THE frequency with which the menstrual life of so many women is marred by functional aberrations that pass the borderline of physiologic limits, emphasizes the importance of an effective uterine tonic and regulator in the practicing physician's armamentarium.

In ERGOAPIOL (Smith) with SAVIN the action of all the alkaloids of ergot (prepared by hydro-alcoholic extraction) is synergistically enhanced by the presence of apiol and oil of savin. Its sustained tonic action on the uterus provides welcome relief by helping to induce local hyperemia, stimulating smooth, rhythmic uterine contractions and serving as a potent hemostatic agent to control excessive bleeding.

May we send you a copy of the booklet "Menstrual Disorders", available with our compliments to physicians on request.

MARTIN H. SMITH COMPANY
150 LAFAYETTE STREET, NEW YORK 13, N. Y.

short REPORTS

Serology

Enzymes in Banked Blood

Erythrocytes in blood stored for as long as seven weeks are no more fragile than the fresh cells when dimethylamino-isopropyl-phenothiazine is used as a preservative. Erythrocytes of ordinary banked blood remain usable for about three weeks. When much of this three-week period is used for transportation to the ultimate user, the useful life of fresh whole blood is extremely short. Dr. Otto Schales of Tulane University of Louisiana, New Orleans, believes the increase in red cell fragility during storage to be the result of an enzyme action on the cell membrane. Phenothiazine gives good indication of being capable of at least slowing this process.

Surgery

Graft of Skin on Diaphragm

For closure of large diaphragmatic defects, cutis tissue has the advantages of availability, tensile strength, pliability, and autogenicity. Comparing free and pedicle autografts in repair of operative and simulated congenital abnormalities in 32 dogs, Drs. Ernest D. Geever of Whipple, Ariz., and K. Alvin Merendino of the University of Washington, Seattle, found the former superior. The skin was cut with a Padgett dermatome to a depth of 0.03 in. and then was recut to provide 2 flaps, one of epidermis, the other of cutis, 0.01 and 0.02 in. thick, respectively. The outer layer was detached and sutured in place over the donor site. Infection is unlikely in human beings adequately protected by antibiotics. No physical disability was observed in any of the animals. The major histologic changes in the derma were cystic degeneration of the hair follicles, minute granulomatous regions of chronic inflammatory cells, and scattered microscopic abscesses.

Surg., Gynec. & Obst. 95:308-316, 1952.

Physiology

Asymptomatic Lung Disease

Nonobstructive emphysema may occur at a relatively young age without clinical or roentgenologic evidence of lung or heart disease. The condition is not necessarily an accompaniment of old age. On the basis of volume studies, Dr. Morton Galdston and associates of New York University, Goldwater Memorial Hospital, New York City, found 11 of 19 patients between 30 and 87 years of age who had a normal relationship of residual volume to total lung volume, and 8 with higher values currently considered indicative of emphysema. The difference in age range between the two groups was not significant.

J. Applied Physiol. 5:17-23, 1952.

Successful Treatment

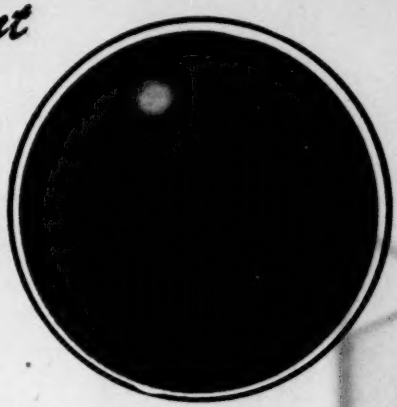
of

NEURITIS

WITH

PROTAMIDE

(SHERMAN)



84 patients of 104 had complete relief of pain in sciatic, intercostal and facial neuritis with one daily injection of Protamide for five or ten days.

Smith reports "—49 were discharged as cured after five days of therapy."

No intolerance to Protamide, systemic or local was found in the 125 patients (104 plus 21 controls).

Two qualifications for practical application of this study are:

1 The elimination of cases due to mechanical pressure.

2 Early treatment after onset.

**Smith, Richard T: Treatment of Neuritis with Protamide. New York Medicine (Aug. 20) 1952.*

A card marked Neuritis will bring reprint and literature

SHERMAN LABORATORIES

BIOLOGICALS • PHARMACEUTICALS

WINDSOR DETROIT 13 MICH LOS ANGELES

3

Removes intestinal toxins

RESION

- A palatable suspension of multiple adsorbents
- Effective in diarrhea of infants, children and adults
- Controls the nausea and vomiting of pregnancy
- Effective in bacterial gastrointestinal toxicity
- Valuable adjuvant in the treatment of food poisoning, colitis and gastroenteritis

Available: Bottles of 4 and 12 fluidounces.

8 important advantages for ulcer therapy—

RESINAT H-M-B

Resinat . . . . . 0.5 Gm.
Homatropine methylbromide . . . . . 1 mg.

1. Quick relief of ulcer pain
2. Speeds healing of peptic ulcer
3. Attracts and binds both pepsin and hydrochloric acid
4. Blocks spasm: relaxes the gastrointestinal tract
5. Coats the crater with a protective film
6. Does not cause acid rebound, alkalosis, constipation or diarrhea
7. Does not remove chlorides, phosphates, minerals or vitamins
8. Pharmacologically inert

Available: Bottles of 36, 100 and 1,000 tablets.

Removes sodium—controls edema

NATRINIL

- To reduce blood pressure in hypertension
- To relieve edema in hypertension, congestive heart failure and cirrhosis
- Controls sodium absorption with minimal dietary restrictions
- Invites patient cooperation by allowing a more palatable diet
- Lessens or eliminates the need for diuretics

Available: Powder, 10 ounce bottles and boxes of 24 individual 10 gram packets.

THE
NATIONAL DRUG CO.

In G.I. infections—diarrhea—nausea of pregnancy

In peptic ulcer

In hypertension, congestive heart failure and cirrhosis

Tumor Therapy

Reduction of HN_2 Toxicity

Nausea and vomiting after injection of nitrogen mustard and the severe leukopenia and thrombocytopenia induced by such therapy may be alleviated by prior administration of L-cysteine. The protective action of L-cysteine does not modify any beneficial effects of nitrogen mustard therapy. Through use of L-cysteine, Dr. Austin S. Weisberger and associates of Lakeside Hospital and Western Reserve University, Cleveland, also find that doses as large as 1.5 mg. per kilogram of body weight may be administered without prohibitive toxic effects. Large doses of nitrogen mustard have not, however, produced therapeutic results in nonsusceptible neoplastic diseases such as adenocarcinoma or squamous cell carcinoma of the lung, terminal Hodgkin's disease, or radioresistant reticulum cell sarcoma.

Am. J. M. Sc. 224:201-211, 1952.

Endocrinology

Cortisone and Hypertension

A significant degree of hypertension is produced by injection of cortisone acetate in adrenalectomized rats on a sodium-restricted regimen, but the pressure is not affected by desoxycorticosterone. The rise is greater than in intact animals and is not associated with renal damage. Hypertension is lessened when sodium is liberally incorporated in the food of the adrenalectomized rats given cortisone. An increase in the blood pressure is caused by DCA when sodium intake is adequate, involving renal enlargement and an altered electrolyte pattern. Although growth is inhibited by cortisone acetate, Dr. Abbie I. Knowlton and associates of Columbia University and Presbyterian Hospital, New York City, found that the sodium-retaining action of DCA may promote normal or better than normal growth.

J. Exper. Med. 96:187-205, 1952.

Gastroenterology

Oral and Subcutaneous Banthine

The suppression of gastric secretion in dogs is much greater when Banthine is given subcutaneously than when given orally, and smaller dosage is required. Comparison was made in animals with Forse and Currie innervated gastric pouches by Dr. R. Armour Forse and associates, McGill University, Montreal. When 50 mg. of the drug was administered by mouth, a 20 to 34% reduction in the volume of gastric secretion resulted; with 100 mg. the decrease was 40 to 50%. Injection of 15 mg. produced an 83 to 87% drop. Slight elevation of hydrogen ion concentration without significant change in the pepsin value occurred in all cases. The 15-mg. subcutaneous dose almost completely suppresses gastric secretion for five and one-half hours, followed by a slight increase for one to two hours and then a return to normal. The total quantity is decidedly reduced.

Gastroenterology 21:561-568, 1952.

new . . . the modern blood-building preparation

FEOSOL* HEMATONIC

containing only the 5 factors essential

to optimal hematologic response

'Feosol Hematonic' is indicated for the treatment of microcytic and most macrocytic anemias.

Prophylactically, 'Feosol Hematonic' is of real value in pregnancy, lactation, convalescence and geriatrics.

It is also indicated as supportive therapy, both pre- and post-operatively; as a nutritive supplement; and as an adjunct to parenteral liver or B_{12} therapy in Addisonian pernicious anemia.

the recommended daily dosage—1 tablet, 3 times daily—delivers:

Vitamin B_{12}† (Activity Equiv.)	36 mcg.
Gastric substance‡	300 mg.
Folic acid	3 mg.
Ascorbic acid (Vitamin C)	150 mg.
Ferrous sulfate, exsiccated	600 mg.

†Derived from Streptomyces Fermentation. ‡Contains intrinsic factor.

'Feosol Hematonic' is available in bottles of 100 tablets.

Smith, Kline & French Laboratories, Philadelphia

*T.M. Reg. U.S. Pat. Off.

Metabolism

Premature Aging in Diabetes

Conversion of carotene to vitamin A in the diabetic rat's intestine occurs at a greatly reduced rate. When fed a standard dose of carotene, alloxan diabetic rats are able to convert only one-fourth as much to vitamin A as are litter-mate healthy rats. Impaired absorption and destruction are not factors in this metabolic disturbance because diabetic and normal rats handle the vitamin equally well. Isolated loops of normal intestine are able to produce vitamin A from carotene at 6 times the rate of diabetic intestine, find Dr. Albert E. Sobel and Abraham Rosenberg of the Polytechnic Institute and Jewish Hospital of Brooklyn. The diabetic animal must therefore receive some preformed source of vitamin A in order to avoid deficiency. Impaired lipid metabolism may influence the premature aging and arteriosclerosis of diabetic patients.

Oncology

Effects of Work on Neoplasms

Systemic stress may act as an inhibitor of experimental tumors in mice. Inoculated with a fluid ascites tumor, mice subjected to short periods of forced swimming before and after inoculation survive 20% longer than controls. Using methylcholanthrene-induced sarcoma, and varying amounts of swimming time, Dr. Harold A. Rashkis of the University of Pennsylvania, Philadelphia, finds that mice subjected to exhaustive swimming are the first to die. Conversely, mice subjected to a slight amount of swimming withstand tumors better than those not subjected to stress. During the first one hundred days, the animals exposed to stress succumb less rapidly than the others. Once true sarcomas begin to develop, the early protection is lost, and the cumulative mortality curves become superimposed. These findings suggest that an optimal amount of stress may provide maximal protection against tumors.

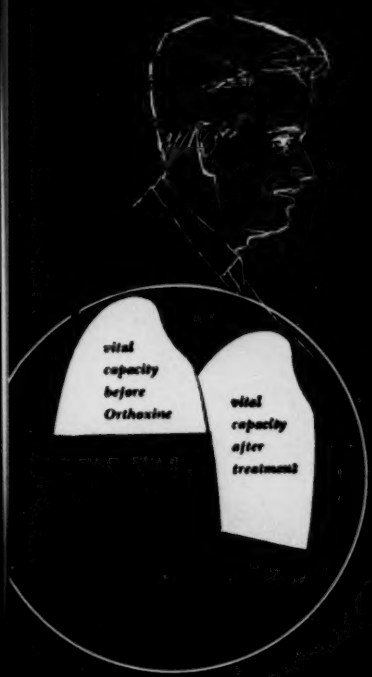
Science 116:169-171, 1952.

Antibiotics

Drug-refractive Amebiasis

Specific action against *Endamoeba histolytica* establishes fumagillin as a valuable adjunct in the treatment of amebiasis. The antibiotic has no significant activity against nonpathogenic intestinal protozoa or bacteria. Fumagillin is nontoxic and amebicidal in 90% of patients receiving an oral course of 100 mg. for twelve and one-half days. Much higher doses have been tolerated by monkeys. Dr. Hamilton H. Anderson and associates of the University of California, San Francisco, and the American University of Beirut, Lebanon, believe fumagillin to be most useful in chronic, drug-refractive, intestinal amebiasis. When terramycin or thiocarbazone has been tried without success, fumagillin may prove effective. Until more data on the value of fumagillin in hepatic abscess have been accumulated, the specific hepatic amebicides, such as chloroquine or emetine, should be used.

Am. J. Trop. Med. 1:552-558, 1952.



an
answer
to
asthma

Q.

A.

Orthoxine

Upjohn

ASPIRIN

+ PHENACETIN

MAXIMUM SAFE ANALGESIA with

+ PHENOBARBITAL

+ HYOSCYAMINE

+ CODEINE

Cardiology

Extracorporeal Circulation

Life can be maintained in a dog by homologous lungs and a membrane pump while the animal's heart and lungs are excluded from function. Using the Dennis modification of the Dale-Schuster pump and both lungs from a dog, Dr. Harry W. Fischer and associates of the Children's Memorial Hospital and Northwestern University, Chicago, maintained oxygen saturation of arterial blood from 96.3 to 100% of normal, and of venous blood from 34.4 to 52.2% of normal in heparinized dogs. Removal of carbon dioxide was accomplished without difficulty, the *p*H varying from 7.2 to 7.8. No evidence of early or late hemorrhage or infection or of renal, cerebral, cardiac, or pulmonary damage was found in surviving dogs although cardiorespiratory activity had been suspended for as long as forty-five minutes.

Ann. Surg. 136:475-484, 1952.

Oncology

Mouse Leukemia

Spontaneous leukemia of mice may be caused by a filtrable agent transferred from one generation to another directly through the embryos. The substance is harmless for the host until the animal reaches middle age, reports Dr. Ludwik Gross of the Veterans Administration Hospital, New York City. The possible factor may be found with the electron miscroscope in cell suspensions and filtered extracts prepared from organs and tumors of diseased animals and from normal embryos of the same strain. The susceptibility of C3H mice to inoculation with the material from the Ak line disappears a few days after birth. The pathogen is transmitted to the offspring of the treated sucklings, and spontaneous leukemia develops in both groups after middle age.

Ann. New York Acad. Sc. 54:1184-1196, 1952.

Hematology

Anemia of Hypophysectomy

Subcutaneous injection of cobalt nitrate will effectively correct the anemia induced in rats by hypophysectomy. Regimens of high-protein intake, androgens, thyroxine, copper, and iron, in varied combinations, have been found capable of maintaining a normal erythrocyte count in such animals. A normal hemoglobin and red cell count is maintained only with a combination of testosterone, thyroxine, and a high protein diet or with crude pituitary extracts. Dr. Roger C. Crafts of the University of Cincinnati now finds cobalt therapy effective in this condition. Cobalt may interfere with cell respiration and produce an intracellular anoxia which stimulates erythropoiesis in the bone marrow. With dosage schedules of 0.5 mg. of cobalt nitrate for fifty days, an actual elevation of hemoglobin and erythrocytes is observed. Vitamin B_{12} and liver extract are ineffective in treating the anemia of hypophysectomy.

Blood 7:863-873, 1952.

IMPRESSIVE NEW EVIDENCE CONFIRMS

striking benefits *in* resistant acne

CUTANEOUS VASOCONSTRICTING PRINCIPLE FROM LIVER

In a series of 22 cases of acne vulgaris resistant to all conventional methods of treatment (including massive vitamin A therapy), Nierman[1] has obtained remarkable results with **KUTAPRESSIN***... confirming previous observations of Marshall[2,3] and others,[4,5] who used early forms of this preparation.

ALSO VALUABLE IN PRURITUS ANI AND KELOIDS—Marshall[6] has reported relief of distressing symptoms in 16 cases of pruritus ani treated with **KUTAPRESSIN**, and has found the drug effective in reducing the size and disfiguring appearance of keloids.[2,3]

CLINICAL RESULTS WITH KUTAPRESSIN

- Disappearance or marked amelioration of pustules and other lesions
- Regression of scars and pits, usually amenable only to surgery
- Early improvement, securing enthusiastic patient-cooperation
- New social and economic outlook for patient

SUPPLIED: In 10-cc. multiple-dose vials.

REFERENCES: 1. Nierman, M. M.: J. Indiana M. A. (In press). 2. Marshall, W., and Schadeberg, W.: Wisconsin M. J. 49:369, 1950. 3. Marshall, W.: M. Times 79:222, 1951. 4. Stillians, A. W.: Mississippi Valley M. J. 64:135, 1942. 5. Lichtenstein, M. R., and Stillians, A. W.: Arch. Dermat. & Syph. 45:959, 1942. 6. Marshall, W.: Mississippi Doctor (Aug.) 1951.

*Trademark of Kremers-Urban Company.

Nellie Nifty, R.N.

by kaz

Bacteriology

Trypanocidal Antibiotic

A recently obtained species of *Actinomyces, Streptomyces albo-niger*, produces a pigment-free substance that has antibiotic activity against some gram-negative and gram-positive bacteria and the protozoan genus *Trypanosoma*. Dr. J. N. Porter and associates of Pearl River, N. Y., find that the product, called Achromycin, has curative effects against *T. equiperdum* in mice when administered orally or parenterally in the form of various acid salts or as the free base.

Antibiot. & Chemother. 2:409-410, 1952.

Immunity

Antibody Development

Cold-agglutinin titers of primary atypical pneumonia patients treated with aureomycin do not rise as high nor remain elevated as long as titers of untreated patients. Although aureomycin appears to exert beneficial effects in primary atypical pneumonia, such as reduction of febrile days and early clearing of pulmonary infiltration, the possible interference with development of immunity is worthy of consideration. Because this disease frequently runs a mild, brief course and is often not diagnosed until as late as the fifth day, when the fever is practically over, Constance D. Gallagher and Dr. J. Roswell Gallagher of Children's Medical Center and Harvard School of Public Health, Boston, question the wisdom of routine use of aureomycin as specific treatment. When the infection is severe or the patient debilitated, aureomycin or other antibiotics should be used. Desirability of a dramatic cure should, however, in most cases be carefully evaluated in terms of possible interference with the development of natural immunity against subsequent attacks of primary atypical pneumonia.

New England J. Med. 247:314-316, 1952.

Shock

Epinephrine and Renal Ischemia

Vascular changes and focal necrosis of the kidney after crushing injuries, burns, and other trauma resemble the spotty ischemia produced by injections of epinephrine and norepinephrine in rabbits. Stimulation of both components of the adrenals occurs in shock and so the failure of desoxycorticosterone to modify significantly the sensitivity of the vessels to the medullary hormones does not eliminate the possibility of cortical influence. Using Vasoflavine, an injectable fluorescent dye obtained by extracting thioflavine-S with distilled water, Dr. Jay B. Moses of the University of Rochester, N.Y., was able to observe the effects of 0.5 to 35 μg. per kilogram of body weight of the sympathomimetic drugs, while keeping the vascular system intact. The differences in response to equal doses of injected epinephrine may depend upon variation in adrenergic tonus and changes in the cortex mediated probably by the anterior lobe of the hypophysis.

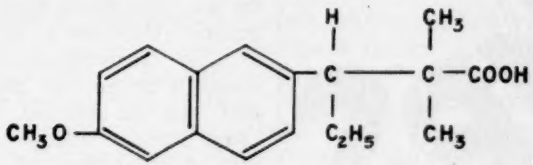
J. Urol. 68:558-567, 1952.

Vallestril
BRAND OF METHALLENESTRIL

Concerning **Vallestril***...

Clinical evidence indicates that much estrogen therapy is accompanied by a high incidence of unfortunate side actions such as withdrawal bleeding, nausea and edema . . .

G. D. Searle & Co. presents VALLESTRIL . . .



as an effective estrogenic substance with a *strikingly low incidence* of these undesirable side effects.

Vallestril is available in 3 mg. scored tablets. For treatment of the physiologic or artificial menopause—3 mg. (one tablet) twice daily for two weeks. Then a maintenance dose of one tablet daily for an additional month or longer if symptoms require continued administration.

SEARLE Research in the service of medicine

*Trademark of G. D. Searle & Co.

Heart Surgery

Closure of Septal Defects

Large interauricular septal deformities lead to right-sided heart failure in early or middle age; most surgical measures either fail to correct the condition or obstruct some phase of the circulation. Dr. Robert E. Gross and associates of the Children's Hospital and Harvard University, Boston, utilize an open rubber well, 15 cm. high, 13 cm. across at the top, and 4 cm. in diameter at the lower orifice, attached to an auricular wall so that the chamber opens into the bottom of the sac. The blood, kept fluid with heparin, rises to a height equal to the intraauricular pressure. Through the pool of blood any lesion can be located accurately. Large septal openings are covered with an onlay sheet of plastic material sutured into place. Small apertures are repaired by direct stitching and approximation of the septal margins. Of 6 patients operated upon, aged 4 to 16 years, 2 survived and no longer have cardiac murmurs. Hufnagel buttons used in 3 children worked loose and death occurred within a few days. Too long a plate projecting over the annulus was responsible for the other fatality.

New England J. Med. 247:455-460, 1952.

CURRENT
BOOKS *and* PAMPHLETS

This catalogue is compiled from all available sources, American and foreign, to insure a complete listing of the month's releases.

Medicine

THE PRINCIPLES AND METHODS OF PHYSICAL DIAGNOSIS *by* Simon S. Leopold. 430 pp., ill. W. B. Saunders Co., Philadelphia. $7.50

MALARIA: BASIC PRINCIPLES BRIEFLY STATED *by* Paul Farr Russell. 210 pp., ill. Blackwell Scientific Publications, Oxford. 35*s*.

LES MALADIES DE L'OESOPHAGE *by* J. Terracol. 2d ed. 1,038 pp., ill. Masson & Co., Paris. 6,000 fr.

PHYSICAL DIAGNOSIS *by* Harry Walker. 461 pp., ill. C. V. Mosby Co., St. Louis. $8

Obstetrics & Gynecology

INFANT AND MATERNAL CARE IN NEW YORK CITY: A STUDY OF HOSPITAL FACILITIES *edited by* Edward Henry Lewinski Corwin. 188 pp., ill. Columbia University Press, New York City. $3.50

CLINIQUE THÉRAPEUTIQUE GYNÉCOLOGIQUE *by* G. Cotte *and* J. Mathieu. 306 pp. Masson & Co., Paris. 960 fr.

CULDOSCOPY: A NEW TECHNIC IN GYNECOLOGIC AND OBSTETRIC DIAGNOSIS *by* Albert Decker. 148 pp., ill. W. B. Saunders Co., Philadelphia, $3.50

THE TOXEMIAS OF PREGNANCY *by* William J. Dieckmann. 2d ed. 710 pp., ill. C. V. Mosby Co., St. Louis. $14.50

STUDIES ON TESTIS AND OVARY EGGS AND SPERM *edited by* Earl Theron Engle. 256 pp., ill. Charles C Thomas, Springfield, Ill. $7.75

Biochemistry

THE ENZYMES: CHEMISTRY AND MECHANISM OF ACTION, VOL. II, PART II *edited by* James B. Sumner *and* Karl Myrback. 649 pp., ill. Academic Press, New York City. $14

Radiology

EINFÜHRUNG IN DIE RÖNTGENOLOGIE *by* G. F. Haenisch *and* H. Holthusen. 521 pp. Georg Thieme, Stuttgart. 60 DM.

ULTRAVIOLET RADIATION *by* Lewis R. Koller. 270 pp., ill. John Wiley & Sons, New York City. $6.50

CLINICAL RADIOLOGY OF THE EAR, NOSE AND THROAT *by* Eric Samuel. 348 pp., ill. H. K. Lewis & Co., London. 70*s*.

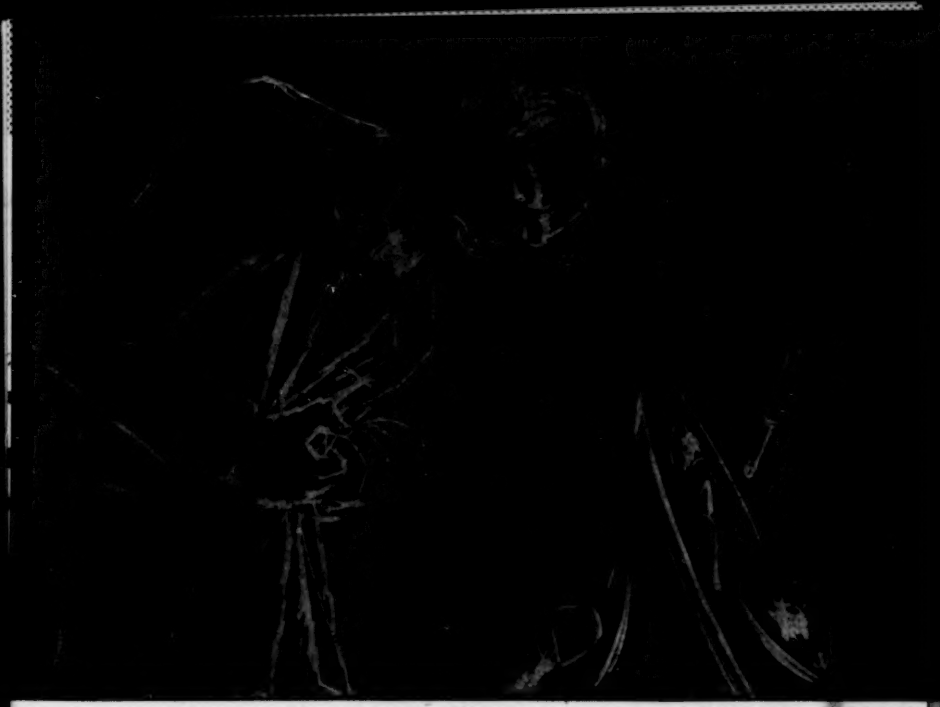
ROENTGENOLOGY IN OBSTETRICS AND GYNECOLOGY *by* William Snow. 2d ed. 364 pp., ill. Charles C Thomas, Springfield, Ill. $10.50

Surgery

SURGERY OF THE CHEST *by* Julian Johnson *and* Charles K. Kirby: 387 pp., ill. Year Book Publishers, Chicago. $9

RUPTURES OF THE ROTATOR CUFF *by* Herbert F. Moseley. 90 pp., ill. Charles C Thomas, Springfield, Ill. $6.50

PRACTICAL PROCEDURES *edited by* Heneage Ogilvie *and* William A. R. Thomson. 2d ed. 380 pp., ill. Eyre & Spottiswoode, London. 25*s*.



to prevent attacks in angina pectoris

Effective in 4 out of 5 cases – Fewer anginal attacks were suffered by 78.4%[1] and 80%[2] of patients for whom Peritrate was prescribed on a continuing daily schedule. Taken regularly as a prophylactic measure (rather than when attack is present or imminent), Peritrate will often help to

1. reduce the number of attacks
2. reduce the severity of those attacks that are not prevented
3. reduce nitroglycerin dependence
4. increase exercise tolerance.

New, long-lasting oral vasodilator – Unlike older, shorter-acting nitrates, Peritrate is slowly absorbed and long-lasting, each dose providing 4 to 5 hours protection against attacks. It is virtually nontoxic. Mild, transitory side effects occur rarely and are easily controlled. Tolerance has not developed in patients studied

Dosage: Usually 1 tablet 3 or 4 times daily. Available in 10 mg. tablets in bottles of 100 and 500. Literature and samples on request.

1 Humphreys, P., et al.: Angiology 3:1 (Feb.) 1952.
2. Plotz, M.: N.Y. State J. Med 52:2012 (Aug. 15) 1952.

Peritrate® TETRANITRATE

(BRAND OF PENTAERYTHRITOL TETRANITRATE)

CHILCOTT *Laboratories, Inc.* MORRIS PLAINS, NEW JERSEY

FORMERLY THE MALTINE COMPANY

Otolaryngology

DISEASES OF THE EAR, NOSE AND THROAT *edited by* Walter Graham Scott-Brown. 2 vols. 1,395 pp., ill. Butterworth & Co., London. £8 8*s*.

AUDITORY TRAINING FOR THE DEAF *by* Mary Wood Whitehurst *and* Edna K. Monsees. 99 pp. Volta Bureau, Washington, D. C. $3.12

Psychiatry

THERAPEUTIC STUDIES ON PSYCHOTICS: A PSYCHOLOGICAL AND PSYCHOSOMATIC APPROACH IN FOUR PAPERS *by* Julius Isaac Steinfeld. 262 pp. Forest Press, Des Plaines, Ill. $3.50

PSYCHIATRY IN GENERAL PRACTICE *by* Cuthbert Arthur Harry Watts *and* Beatrice Mary Watts. 228 pp. J. & A. Churchill, London. 12*s*. 6*d*.

Hormones

RECENT PROGRESS IN HORMONE RESEARCH, VOL. VII, 1951 *edited by* Gregory Pincus. 527 pp., ill. Academic Press, New York City. $9.50

Medical History

NEUROSURGERY: AN HISTORICAL SKETCH *by* Gilbert Horrax. 142 pp., ill. Charles C Thomas, Springfield, Ill. $3.75

MEDICAL MILESTONES *by* Henry J. L. Marriott. 293 pp. Williams & Wilkins Co., Baltimore. $3.50

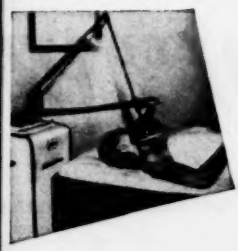
THE APOLOGIE AND TREATISE OF AMBROISE PARÉ *edited by* Geoffrey Keynes. 227 pp., ill. Falcon Educational Books, London. 15*s*.

YELLOW FEVER IN GALVESTON, REPUBLIC OF TEXAS, 1839 *by* Ashbel Smith. 135 pp., ill. The University of Texas Press, Austin, Texas. $2.50

HISTORY OF THE NEW ENGLAND FEMALE MEDICAL COLLEGE, 1848-1874 *by* Frederick C. Waite. 132 pp., ill. Boston University School of Medicine, Boston. $3

Marriage

PATTERNS OF MARRIAGE: A STUDY OF MARRIAGE RELATIONSHIPS IN THE URBAN WORKING CLASSES *by* Eliot T. Slater *and* Moya Woodside. 311 pp. Cassell & Co., London. 17*s*. 6*d*.



TAKE THE TIME to investigate the diathermy equipment used in leading clinics, hospitals and doctors' offices — *over twelve thousand Microtherms now in use.*

NOW *Microtherm* wherever diathermy is indicated...

RAYTHEON Radar *Microtherm* offers you the modern microwave method of precision heat application.

MICROTHERM operates at 2450 megacycles, as contrasted with the highest television range of 920 megacycles, *hence TV interference is avoided.*

MICROTHERM provides penetrating energy for deep heating — dosage may be accurately timed.

MICROTHERM is safe as well as quick, easy to apply as well as clinically efficient.

Ask your dealer for a demonstration or let us mail you the latest clinical reports on Radar Microwave Diathermy.

APPROVED BY THE F. C. C.
CERTIFICATE NO. D-477
UNDERWRITERS LABORATORY

RAYTHEON MANUFACTURING COMPANY
Power Tube Division • Waltham 54, Mass.

RAYTHEON
Excellence in Electronics

the new **WELL-TOLERATE**

● *Wide-range* activity gives 'Ilotycin' versatile applicati in a variety of common infections.

● *'Ilotycin' was well tolerated* in clinical trials. No indic tions of toxicity have so far appeared. No nitrobenze group exists in the molecule.

● In contrast to some antibiotics, *'Ilotycin' does not destr colon bacilli.* In clinical trials, less than 1 percent of p tients had side-effects, and these consisted of a few instanc of nausea.

● *In persons allergic to penicillin* and with penicillin-sens

Excellent clinical results thus far reported* in pneumococcus pne monia, staphylococcus bacteremia, pyoderma, follicular tonsillit acute nonspecific pharyngitis, severe erysipelas, septic sore throat, pe tonsillar abscess, virus pharyngitis, and cellulitis.

Dosage: The average adult dose is four tablets (400 mg.) every hours. The dosage will vary with the severity of the infecti and the weight of the patient.

Available in 100-mg. tablets in bottles of 36.

ELI LILLY AND COMPANY · INDIANAPOLIS

wide-range antibiotic

ive infections, 'Ilotycin' is proving to be the most powerful ntibiotic for general systemic use.

- *Against strains resistant to other antibiotics*, especially taphylococci, 'Ilotycin' is proving particularly useful.
- *The cerebrospinal fluid* contains therapeutically active oncentrations of 'Ilotycin' when serum levels of the drug re high.
- *'Ilotycin' passes freely into ascitic and pleural fluids:*
- *'Ilotycin' is effective by oral administration.*

Lilly

*References

1. Heilman, Fordyce R.; Herrell, Wallace E.; Wellman, William E.; and Geraci, Joseph E.: Some Laboratory and Clinical Observations on a New Antibiotic, Erythromycin ('Ilotycin'), Proc. Staff Meet., Mayo Clin., 27:285 (July 16), 1952.
2. Haight, Thomas; and Finland, Maxwell: Laboratory and Clinical Studies on Erythromycin, New England J. Med., 247:227 (August 14), 1952.
3. Smith, Jay Ward: Experience with a New Antibiotic, 'Ilotycin' (Erythromycin, Lilly), to be published.
4. Spink, Wesley W.: Personal communication.

INDIANA, U. S. A.

See Pages 22-23

Patients . . . I have met

● *The editors will pay $1 for each story published. No contributions will be returned. Send your experiences to the Patients I Have Met Editor, MODERN MEDICINE, 84 South Tenth St., Minneapolis 3, Minn.*

Not Mourning Sickness

He was outsized and dull witted. He came to the pediatric clinic alone, so, to put him at ease, I first asked him about his mother.

"Ma ain't so good," he said. "She's in the passover."

I must have looked perplexed, for he went on to explain.

"You know, where they have a change of life."—A.H.

Taken Literally

The doctor had examined the patient and then turned him over to me, his office nurse, for further instruction. I had about a couple of minutes work left to do on a report, so I said to the patient, "Will you please take a chair in the hall. I will be with you in a moment."

To my amazement he picked up the chair on which he had been sitting, carried it into the hall and sat down.—D.G.

"Perhaps you are smoking more than usual."

Get the Story Quicker . . . More Clearly

MAY OPHTHALMOSCOPE

Daylight Blue Light and May prism design assure a brightly lighted field free from filament images and spots. Colors are natural. You can make diagnoses with greater speed and ease. Fingertip controlled lenses range from +20.00 to −25.00D with numbers magnified and illuminated for easy reading in the dark. Handle houses adjustable rheostat. In attractive, durable case.

HAND DIAGNOSTIC SET

Designed for maximum speed and ease of use. Includes May Ophthalmoscope and Arc-Vue Otoscope, battery handle and extra lamp, with 4 specula in durable carrying case.

BAUSCH & LOMB

OPTICAL COMPANY ROCHESTER 2, N. Y.

Hand Diagnostic **INSTRUMENTS**

Better Call the SPCA

My father was an old-fashioned country doctor. Each fall he visited the families in the hills who were isolated when winter made the roads impassable. To these families he would give advice, check on the health of the members, and leave simple drugs and instructions for their use.

One day as he was approaching a cabin he saw a mountain lion leap onto the window sill and into the house. Nearby was a man cutting wood. Father shouted to him that a mountain lion had just jumped through the window into the house and asked if anyone were in the place.

"My wife," answered the man, setting his ax down.

"Grab your ax and come with me," ordered my father.

"Just a minute," said the man. "Did anyone force that lion into the house?"

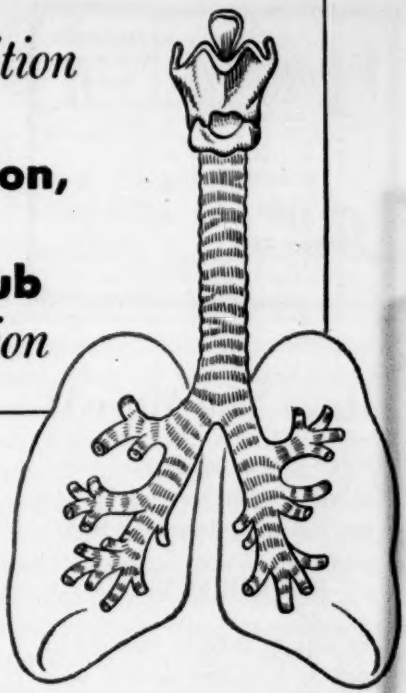
"Of course not," said my father, exasperated at the man's lack of concern. "Now come quickly."

"Nope," answered the woodcutter. "If the lion went in of his own free will, he will have to look after himself."—W.L.H.

"Would you say," asked the probie, "that pathology is the study of road making?"—A.L.H.S.

"Did you buy him by the pound?"

When the condition calls for **steam inhalation,** *consider* **Vicks VapoRub** *as the medication*



When cold-stuffed upper breathing passages, croupy night coughs, upper bronchial congestion or coughing spasms occur, often your first thought is steam therapy.

Such volatiles as menthol, thymol, and oil of eucalyptus make Vicks VapoRub an ideal medication for use in steam. The well-balanced formula is helpful in soothing the irritated mucosa of the respiratory tract, as well as in combatting the dryness that usually accompanies infection.

One added advantage is that the product is on hand in practically every home, ready for instant use day or night.

We will be pleased to send you a supply of samples for distribution to your patients.

VICK CHEMICAL COMPANY
Department M-2
Greensboro, North Carolina

Please send me, without obligation, a supply of distribution samples of Vicks VapoRub.

Name_____

Street_____

City_____

State_____

Have You Moved?

If you have changed your address recently notify us promptly so you will not miss any copies of

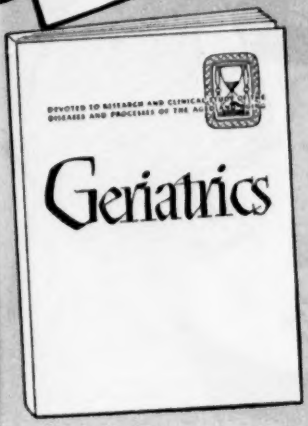
MODERN MEDICINE

Be sure to indicate your old as well as your new address. Send notices to:

MODERN MEDICINE
84 South Tenth Street
Minneapolis 3, Minnesota
Circulation Department

INDEX TO ADVERTISERS

Announcing
a
New Publication Schedule
for
GERIATRICS



Geriatrics

DR. WALTER C. ALVAREZ, EDITOR

will be published EVERY month beginning January '53

GERIATRICS is a professional publication devoted to research and clinical study of the diseases and processes of individuals over 45 years of age. It embraces the overall problems—clinical, psychological and sociological—of the geriatric patient. In GERIATRICS you will find the latest reports on progress in cardiovascular, neurological, arteriosclerotic, arthritic, proctologic, prostatic, nutritive and other disorders common to middle aged and older persons.

To enrich your understanding of this vital field of medical practice, we would like you to read *absolutely free,* the latest issue of GERIATRICS.

READ YOUR FIRST COPY FREE
JUST MAIL THIS COUPON

Every doctor who wishes to expand his professional knowledge, his ability to serve more patients, will find it profitable to investigate the ever-widening field of geriatrics. The mounting interest in this subject has forced us to go from bimonthly to monthly publication. You risk nothing by requesting this free copy of GERIATRICS.

Just mail the coupon and we will send you a free copy of GERIATRICS. At the same time, we will reserve a subscription in your name. However, YOU ARE NOT OBLIGATED IN ANY WAY WHATSOEVER TO SUBSCRIBE! You make your decision after you read GERIATRICS. You **must** mail coupon for free copy.

GERIATRICS, 84 S. 10 St., Minneapolis 3, Minn.

Send me a recent issue for free examination. Also reserve a subscription as indicated below. It is understood that I may cancel this reservation within 10 days. Otherwise I will keep this copy without charge and remit the following:

☐ 1 yr. 12 issues $8 ☐ 24 issues $12.50

☐ Check enclosed ☐ Bill me later

NAME .....

ADDRESS .....

POSTOFFICE .....ZONE..STATE.....

MM 12-1-52

Chronic asthmatic

BACK SERVING WITH A SMILE

No need for the chronic asthmatic to give up work, play, a normal life. With NORISODRINE Sulfate, a quick-acting bronchodilating powder, symptomatic relief is as near as the patient's pocket or purse.

When the asthmatic feels an attack coming on, he simply takes three or four inhalations of the powder, using the pocket-sized AEROHALOR. Result? The bronchospasm usually ends quickly. No injections, no cumbersome equipment, no need to leave the job.

NORISODRINE is effective against both mild and severe asthma.[1,2,3] It has relatively low toxicity, and with proper administration, side-effects are few and usually minor. Before prescribing NORISODRINE, however, the physician should familiarize himself with administration, dosage and precautions. Literature may be obtained by writing Abbott Laboratories, North Chicago, Illinois. Abbott

EASY TO CARRY IN POCKET OR PURSE

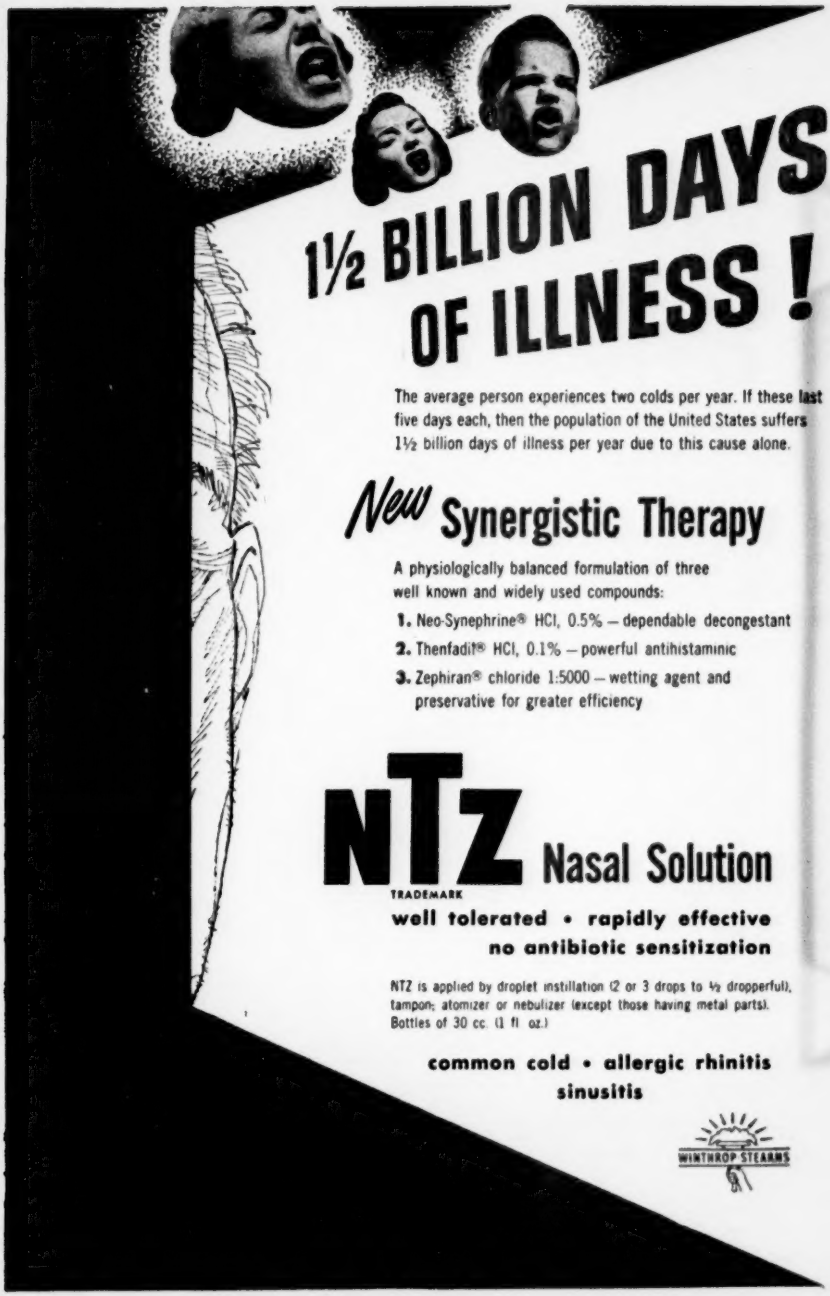
NORISODRINE®

SULFATE POWDER

(ISOPROPYLARTERENOL SULFATE, ABBOTT)

for use with the AEROHALOR® Abbott's Powder Inhaler

1. Kaufman, R., and Farmer, L. (1951), Norisodrine by Aerohalor in Asthma, Ann. Allergy, 9:89, January-February. 2. Swarts, H. (1950), Norisodrine Sulphate (25 Per Cent) Dust Inhalation in Severe Asthma, Ann. Allergy, 8:488, July-August. 3. Krasno, L., Grossman, M., and Ivy, A. (1949), The Inhalation of 1-(3',4'-Dihydroxyphenyl)-2-Isopropylaminoethanol (Norisodrine Sulfate Dust), J. Allergy, 20:111, Mar.



1½ BILLION DAYS OF ILLNESS!

The average person experiences two colds per year. If these last five days each, then the population of the United States suffers 1½ billion days of illness per year due to this cause alone.

New Synergistic Therapy

A physiologically balanced formulation of three well known and widely used compounds:

1. Neo-Synephrine® HCl, 0.5% – dependable decongestant
2. Thenfadil® HCl, 0.1% – powerful antihistaminic
3. Zephiran® chloride 1:5000 – wetting agent and preservative for greater efficiency

NTZ TRADEMARK Nasal Solution

well tolerated • rapidly effective
no antibiotic sensitization

NTZ is applied by droplet instillation (2 or 3 drops to ½ dropperful), tampon, atomizer or nebulizer (except those having metal parts). Bottles of 30 cc. (1 fl. oz.)

common cold • allergic rhinitis
sinusitis

WINTHROP STEARNS

MODERN MEDICINE
84 S. 10 St., Minneapolis 3, Minn.

FORM 3547 REQUESTED